

# What's in Style

## Big and Boring Back in Vogue

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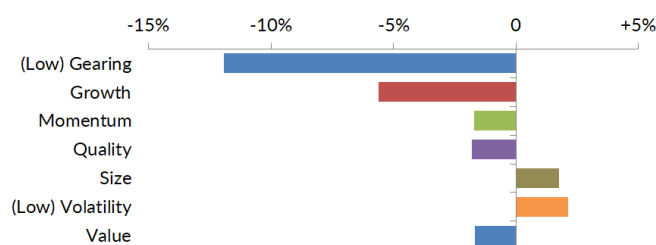
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Six months on from the COVID 19 sell off, Structural Growth has provided the largest gains (+39%), with Defensive Yield and Cyclicals returning +29% and +22% respectively. However the last three months has seen risk taken off the table, with Defensive yield returning +11%, Structural Growth +10% and Cyclicals just +2%. Market concentration (Herfindahl Index) remains high, however this has eased over the last quarter. In general, the market continues to move as one with volatility returning back to five year average levels, as outlined via the mean average pairwise stock-to-stock correlation and dispersion stats.

### A return to low risk for the quarter

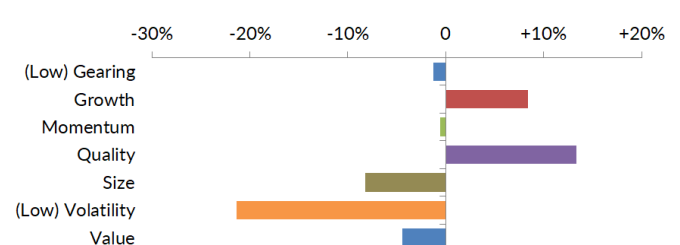
Using the differential performance between the best and worst factor constituents (i.e. stocks ranked in the top third of the market versus the bottom third) provides the best measure of a style factor's contribution. We find that over the last six months, post the market sell-off, Quality and Growth were the dominant style factors within the New Zealand market. Low Volatility did not feature well. We also present the factor returns for the recent quarter (June-September 2020), where Low Volatility and Size outperformed and were the dominant style factors for this period.

**Figure 1. Style factor returns (long-short, three months)**



Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

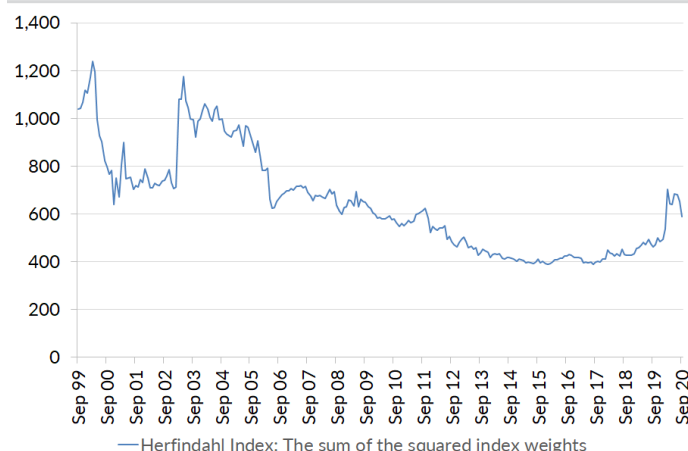
**Figure 2. Style factor returns (long-short, six months)**



Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

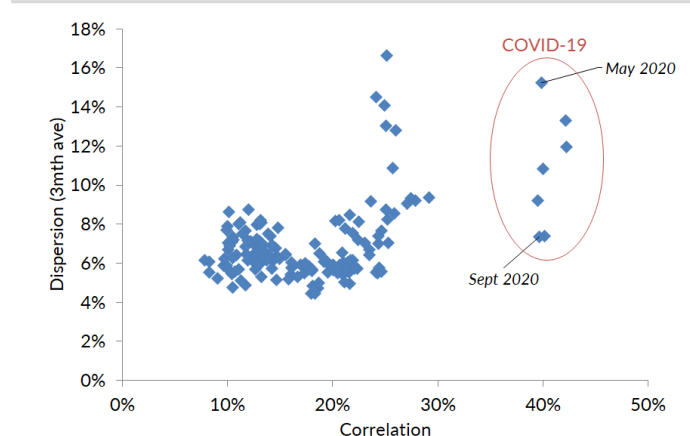
We also construct through our factor database the concentration of the market (20 years) via the Herfindahl index, along with dispersion and correlation stats for the last 13 years. Concentration has lowered but remains at a nine year high, whilst the market continues to move as one, but now with a lower dispersion (volatility).

**Figure 3. Market Concentration**



Source: Forsyth Barr analysis, Bloomberg

**Figure 4. Market Correlation vs Dispersion (3mth ave)**



Source: Forsyth Barr analysis, Bloomberg

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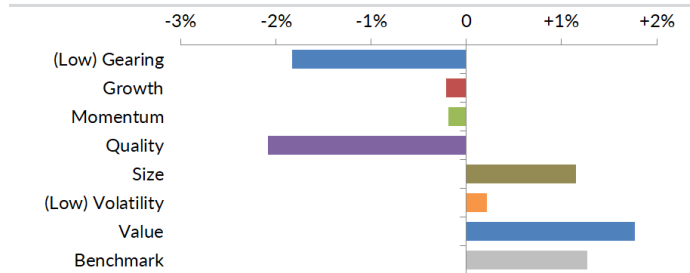
## What's Worked

Points to note:

- Long returns are constructed by calculating the subsequent return of stocks ranked in the top third of the market (in terms of what an average investor would intuitively prefer; where this means a series is inverted [small is preferred to large] we denote using a \*). Short returns are simply the inverse; long-short returns are the difference.
- Explanation of what each metric is and the stock characteristics we are trying to screen for in each style factor, and how each style factor is constructed, are contained in Appendix 1.

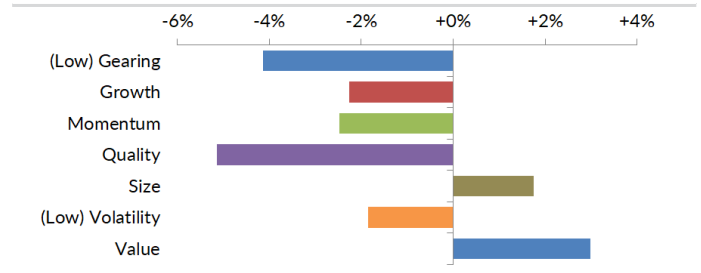
### One Month

**Figure 5. Style factor returns (long only, one month)**



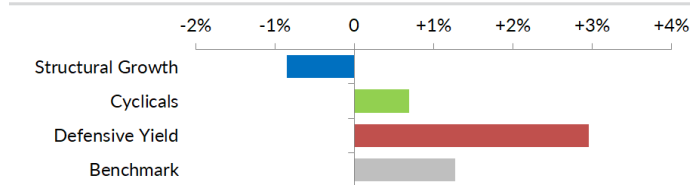
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 6. Style factor returns (long-short, one month)**



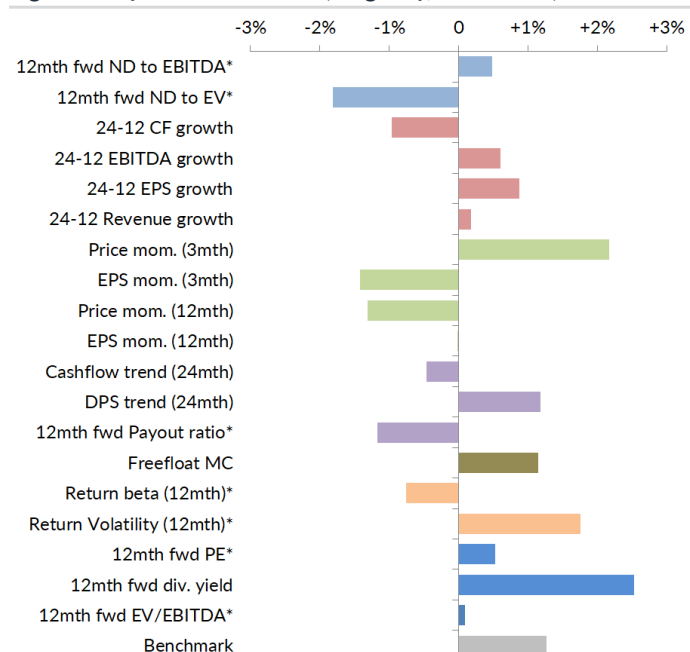
Source: Forsyth Barr analysis, Bloomberg

**Figure 7. Thematic performance, one month**



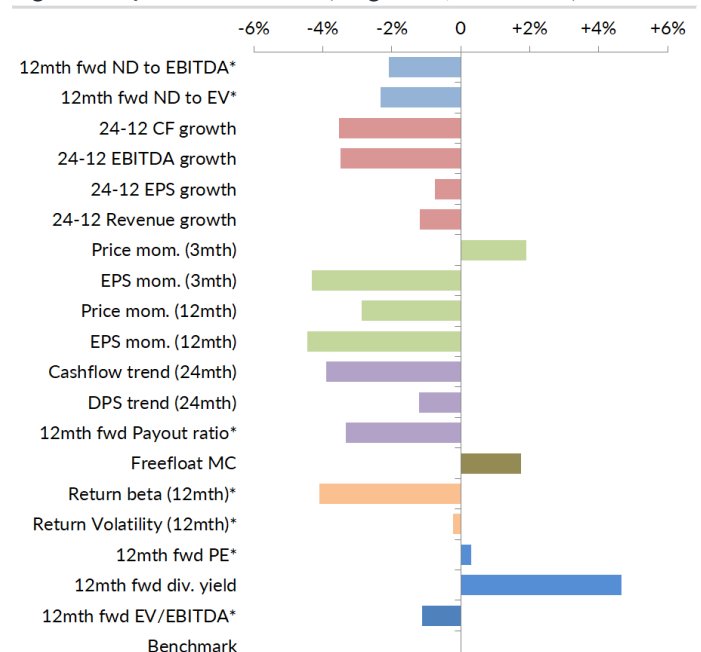
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 8. Style metric returns (long only, one month)**



Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

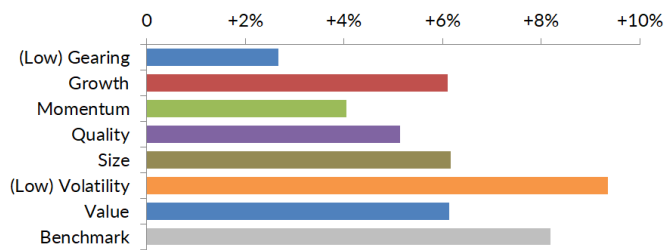
**Figure 9. Style metric returns (long-short, one month)**



Source: Forsyth Barr analysis, Bloomberg

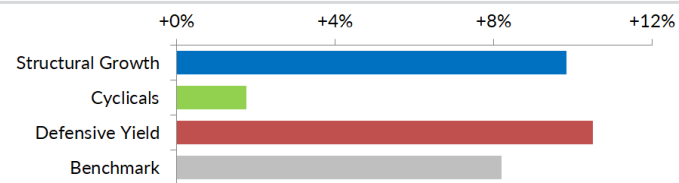
## Three months

Figure 10. Style factor returns (long only, three months)



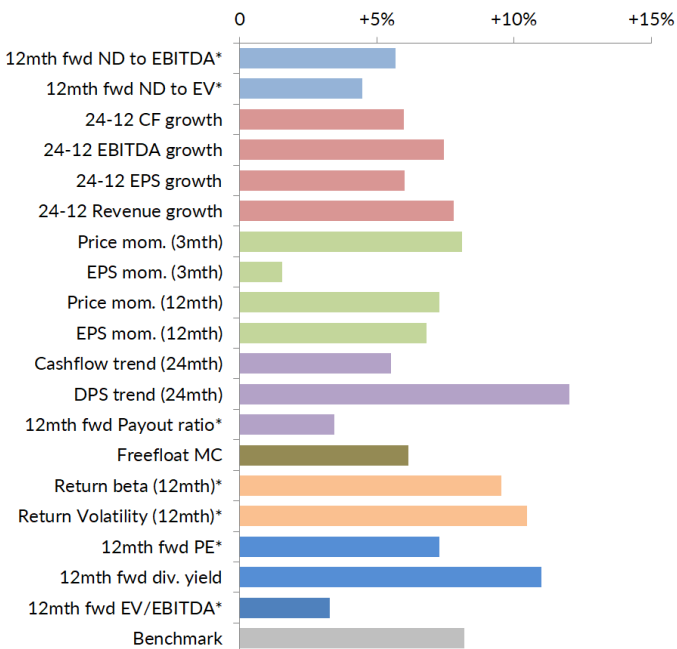
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

Figure 12. Thematic performance, three months



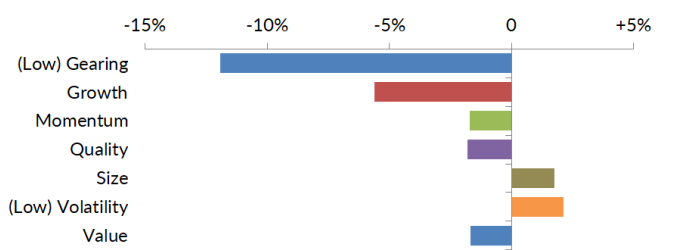
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

Figure 13. Style metric returns (long only, three months)



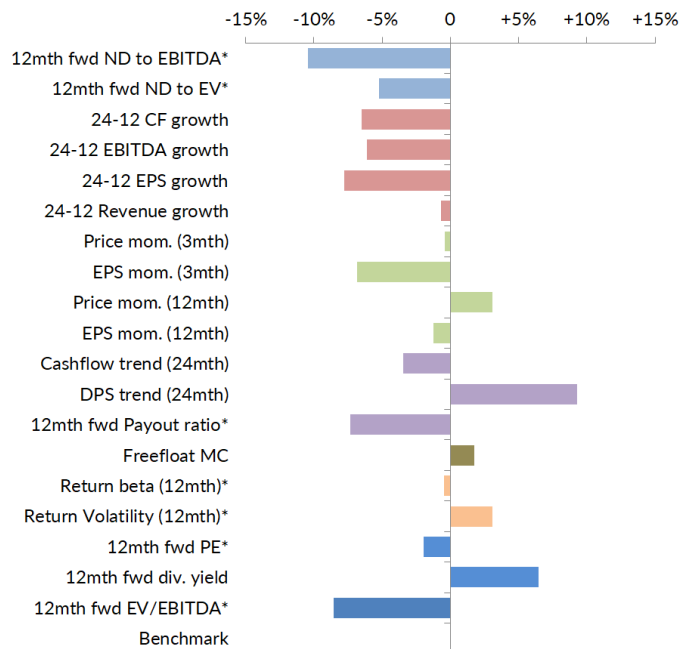
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

Figure 11. Style factor returns (long-short, three months)



Source: Forsyth Barr analysis, Bloomberg

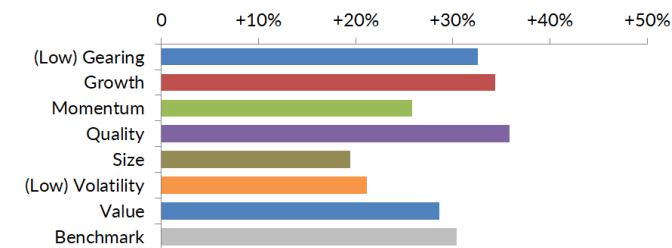
Figure 14. Style metric returns (long-short, three months)



Source: Forsyth Barr analysis, Bloomberg

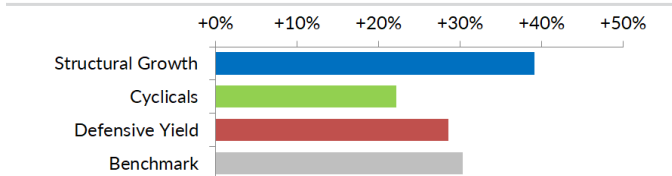
## Six months

**Figure 15. Style factor returns (long only, six months)**



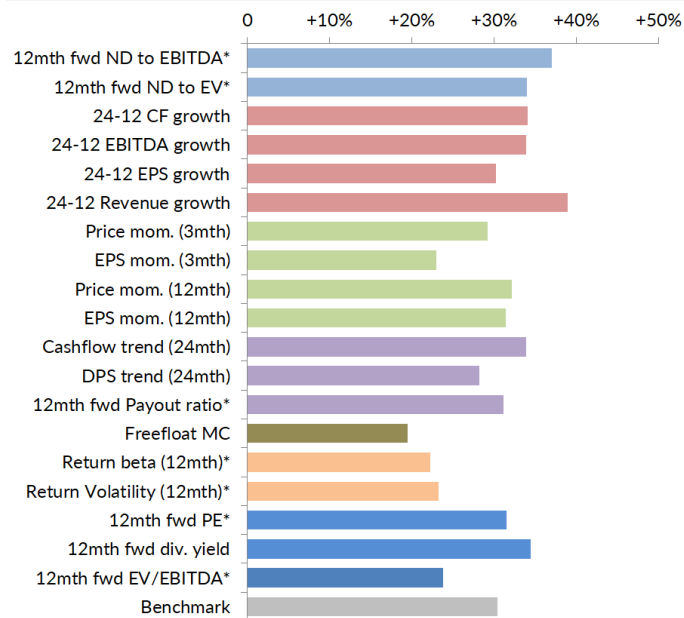
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 17. Thematic performance, six months**



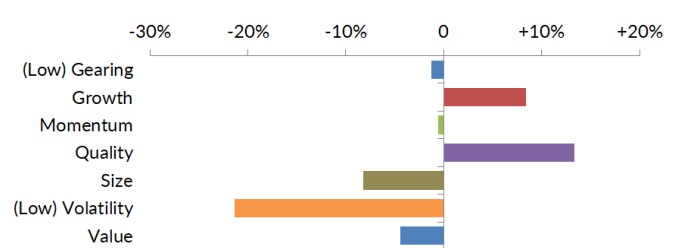
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 18. Style metric returns (long only, six months)**



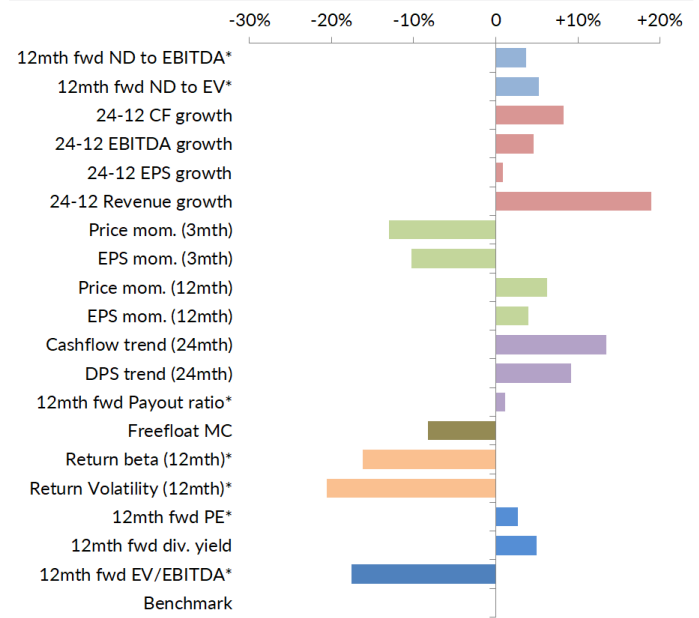
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 16. Style factor returns (long-short, six months)**



Source: Forsyth Barr analysis, Bloomberg

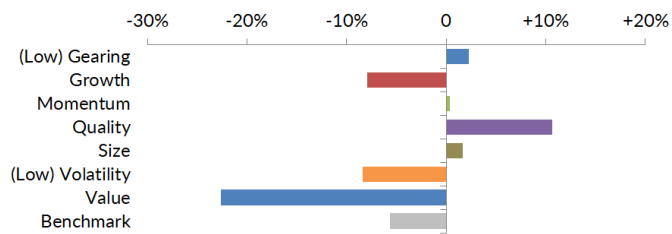
**Figure 19. Style metric returns (long-short, six months)**



Source: Forsyth Barr analysis, Bloomberg

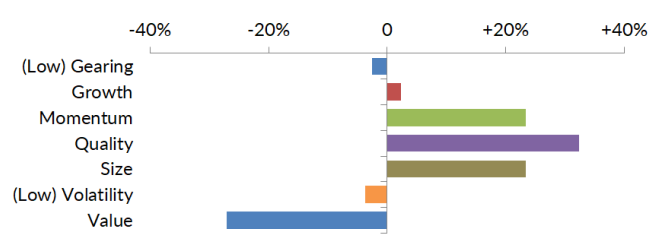
## 12 months

Figure 20. Style factor returns (long only, twelve months)



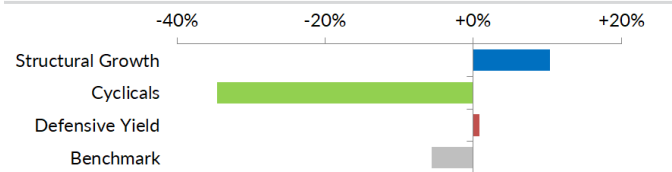
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

Figure 21. Style factor returns (long-short, twelve months)



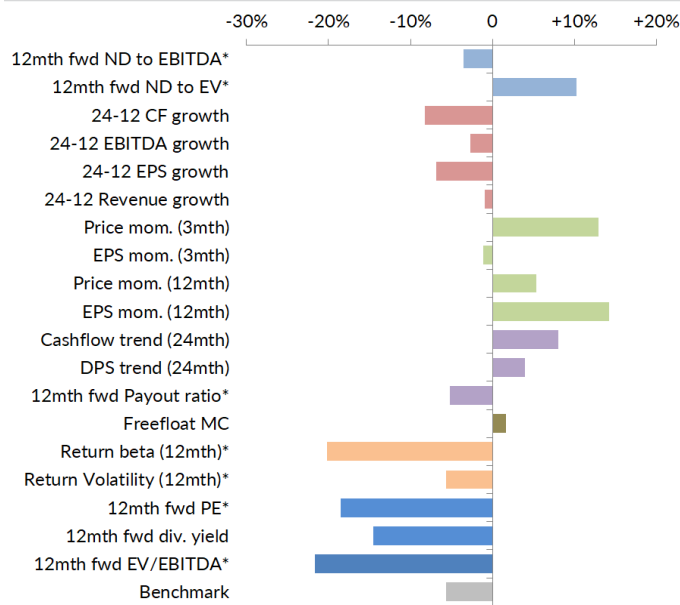
Source: Forsyth Barr analysis, Bloomberg

Figure 22. Thematic performance, twelve months



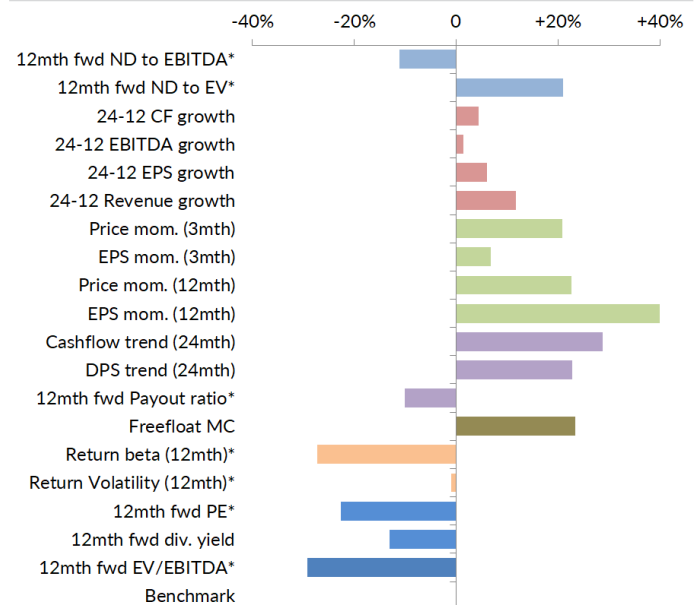
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

Figure 23. Style metric returns (long only, twelve months)



Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

Figure 24. Style metric returns (long-short, twelve months)



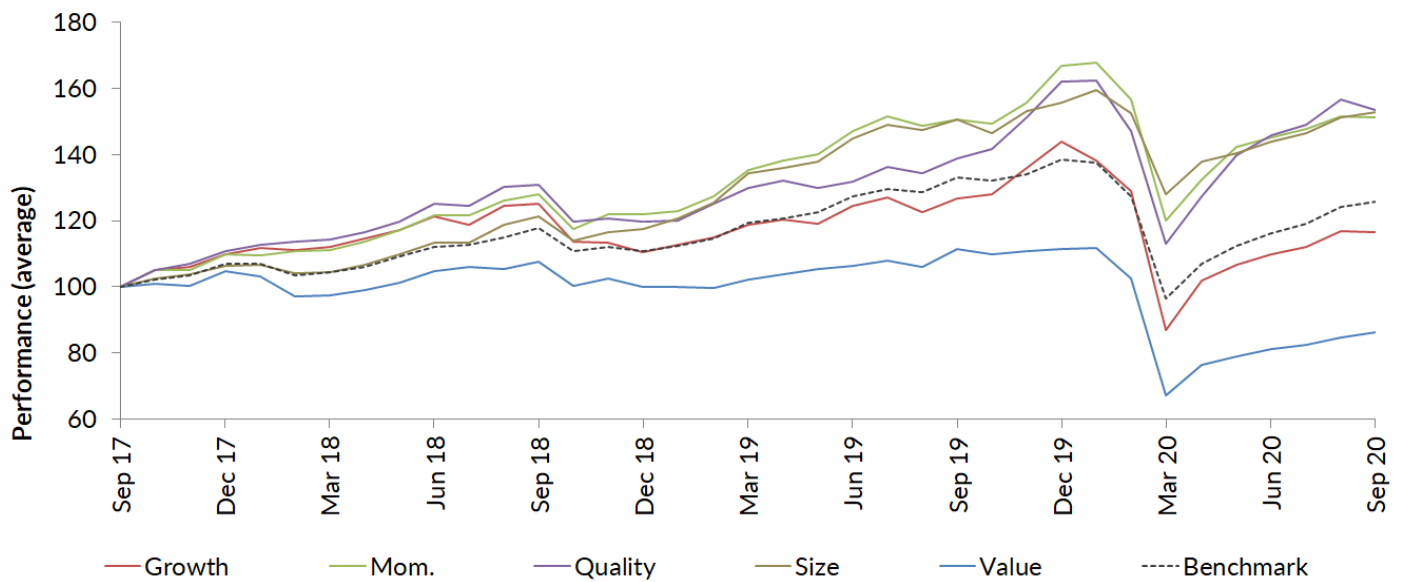
Source: Forsyth Barr analysis, Bloomberg

## Longer term

### Quant styles

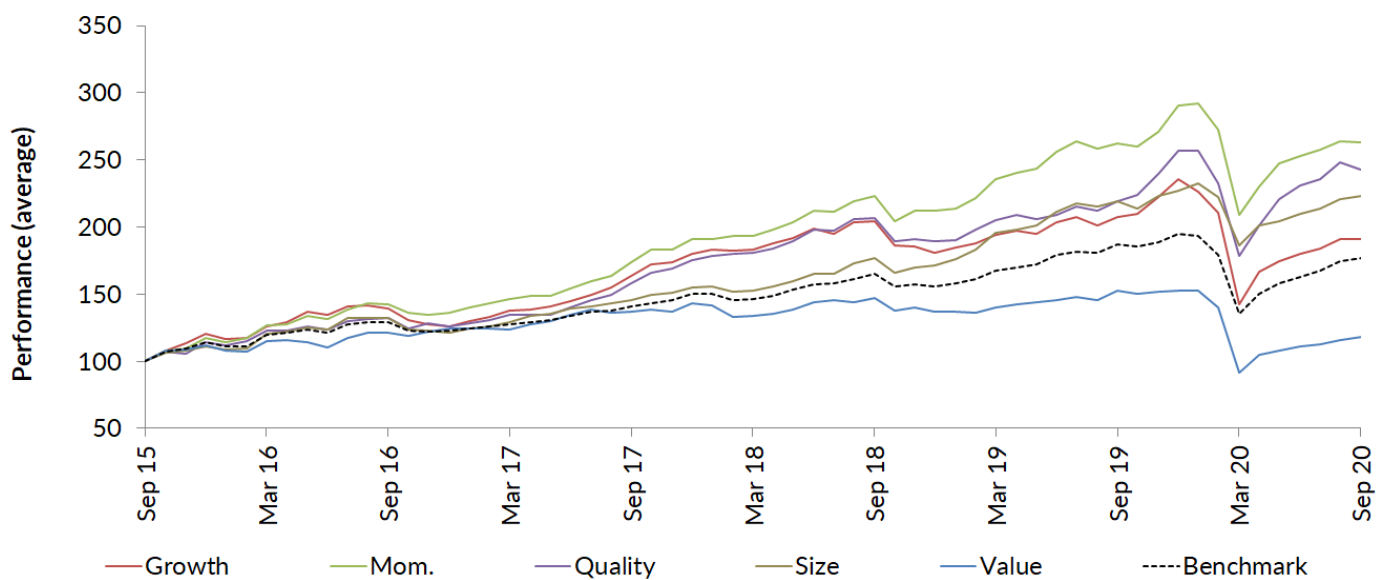
Below we present the returns of our style factors over a three and five year period.

Figure 25. Three year long-only Quant style factor performance



Source: Forsyth Barr analysis, Bloomberg

Figure 26. Five year long-only Quant style factor performance

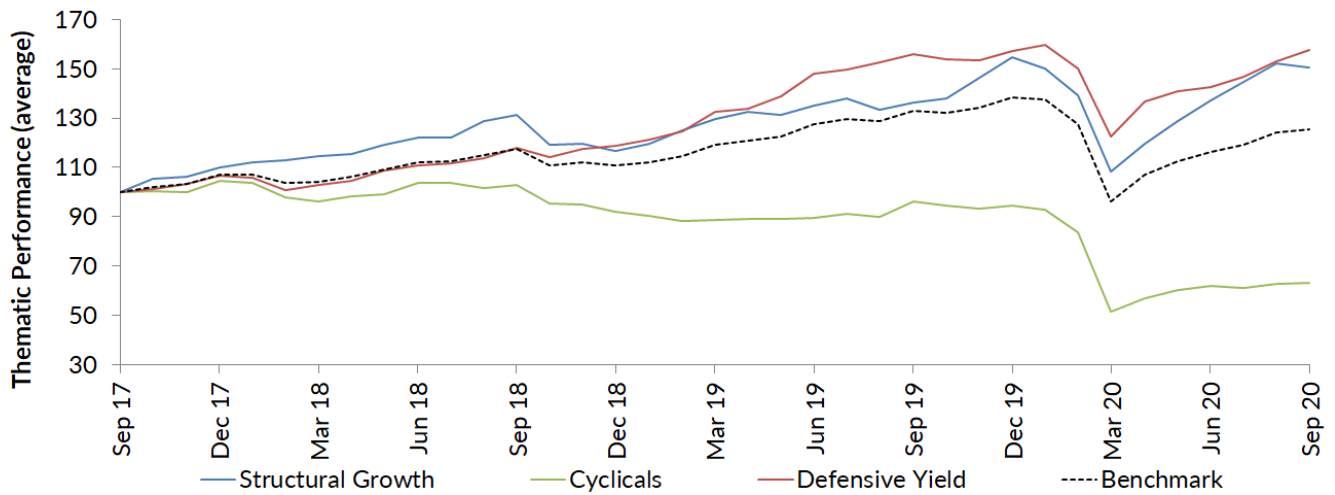


Source: Forsyth Barr analysis, Bloomberg

## By thematic

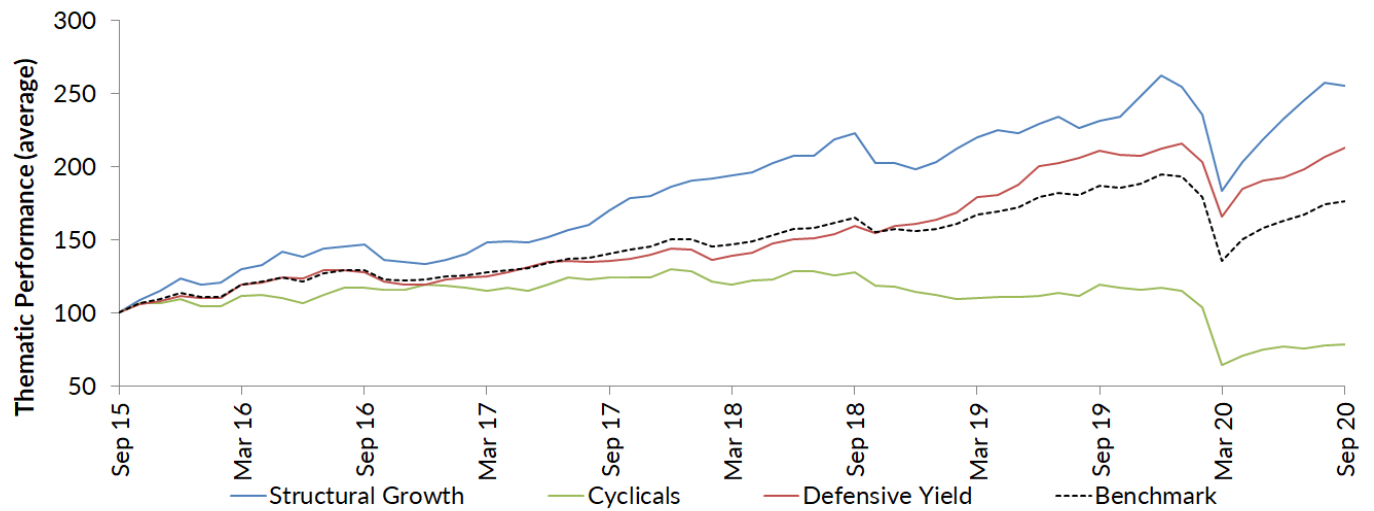
Below we present the returns of our Forsyth Barr defined thematics over a three and five year period.

**Figure 27. Three year Forsyth Barr thematic performance**



berSource: Forsyth Barr analysis, Bloomberg

**Figure 28. Five year Forsyth Barr thematic performance**



Source: Forsyth Barr analysis, Bloomberg

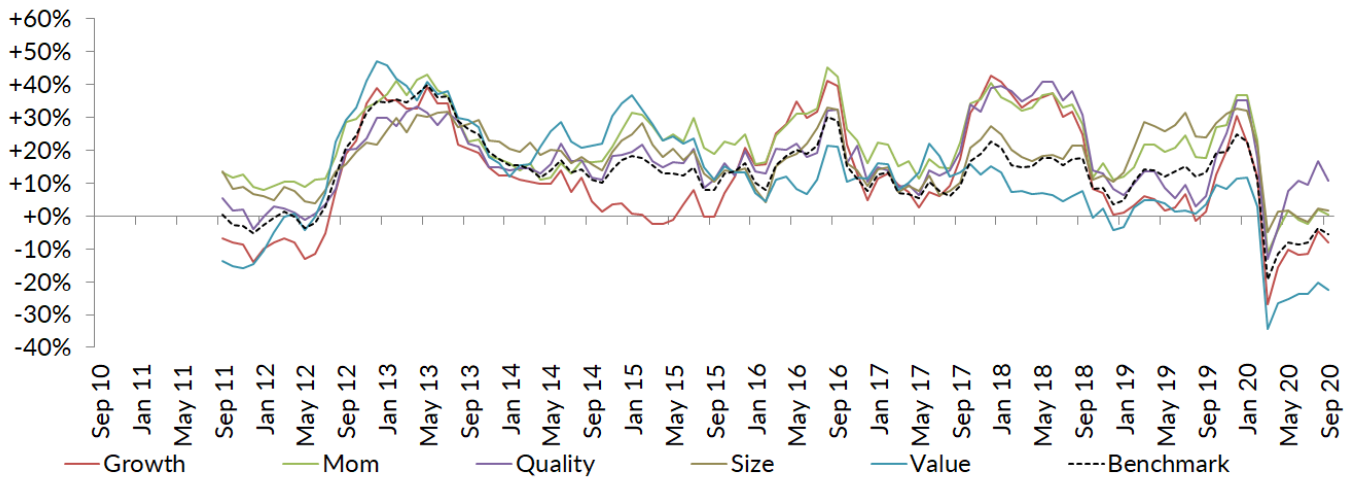


## Rolling Returns

We also present 12 and 36 month rolling returns for each Quant style factor and thematic.

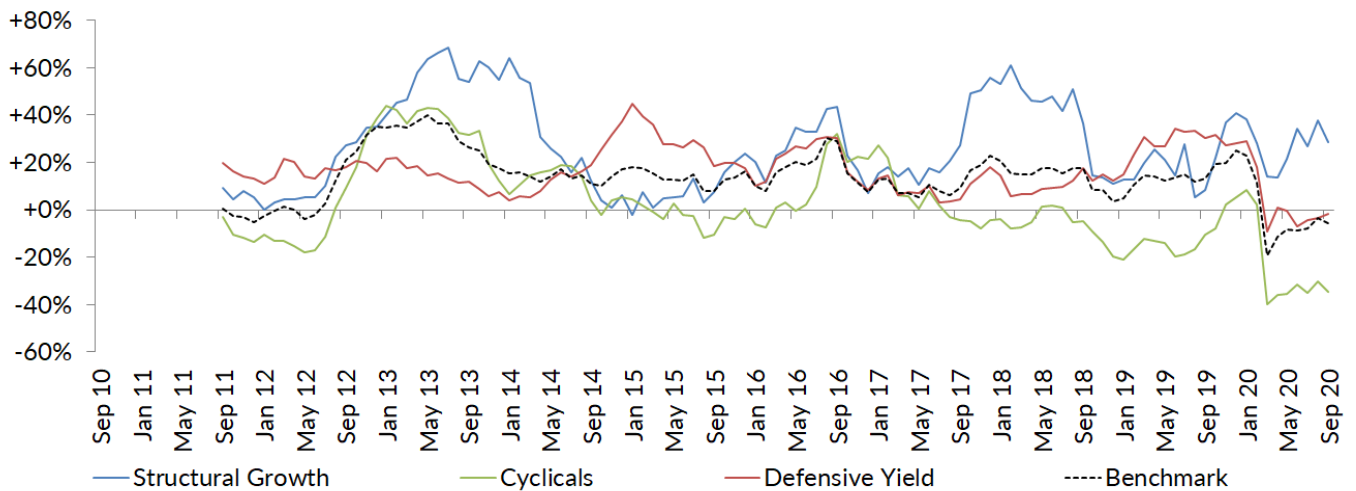
### Twelve months

Figure 29. Quant Style Factor 12mth Rolling Returns (average)



Source: Forsyth Barr analysis, Bloomberg

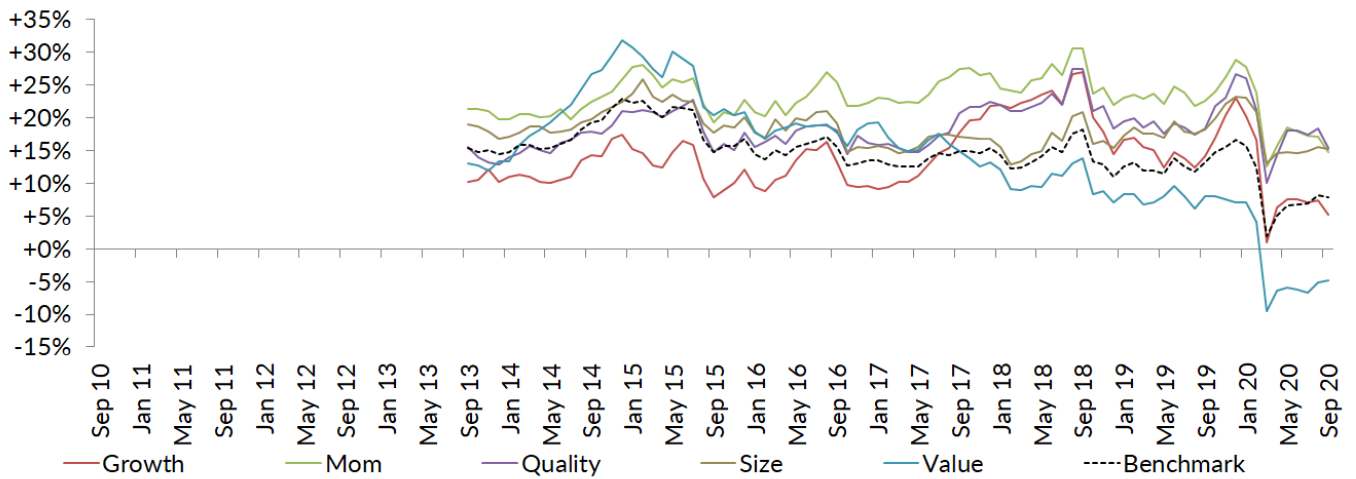
Figure 30. Thematic 12mth Rolling Returns (average)



Source: Forsyth Barr analysis, Bloomberg

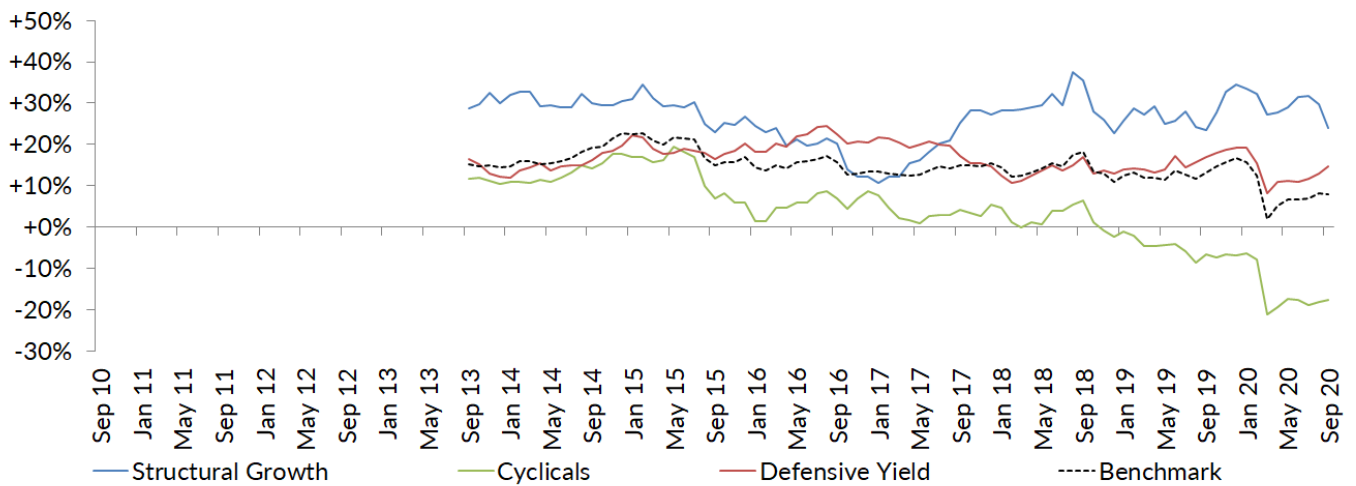
## Thirty six months

Figure 31. Quant Style Factor 36mth Rolling Returns (average)



Source: Forsyth Barr analysis, Bloomberg

Figure 32. Thematic 36mth Rolling Returns (average)



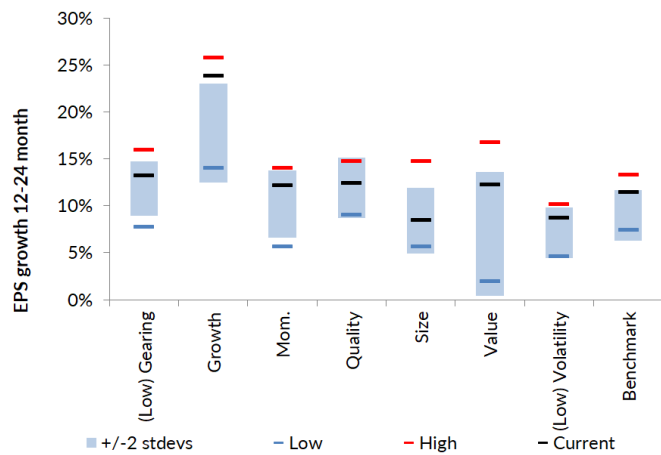
Source: Forsyth Barr analysis, Bloomberg

## Where are the Fundamentals

### Quant style factors and thematics

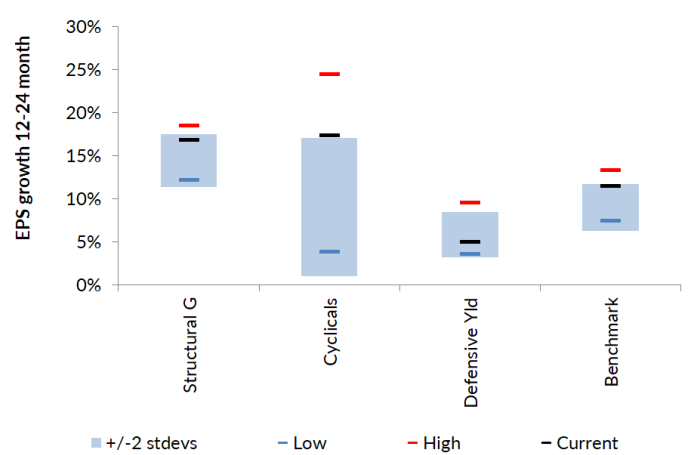
Below we highlight how our long-only quantitative style portfolios stack up in terms of normalised 12-24 month EPS growth, 12 month forward PE and 12 month forward net dividend yield, in terms of both spot and relative to the five-year history.

**Figure 33. 12-24 month forward EPS growth: Factor**



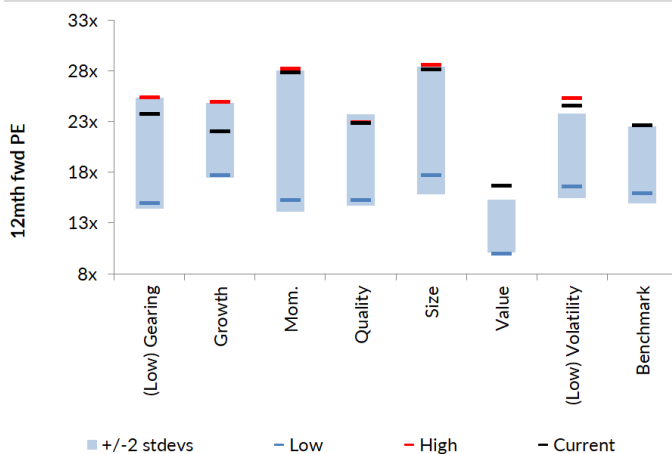
Source: Forsyth Barr analysis, Bloomberg

**Figure 34. 12-24 month forward EPS growth: Thematic**



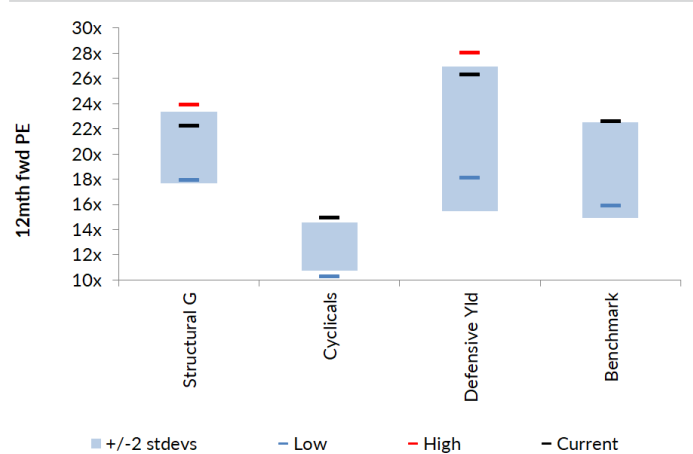
Source: Forsyth Barr analysis, Bloomberg

**Figure 35. 12 month forward PE: Factor**



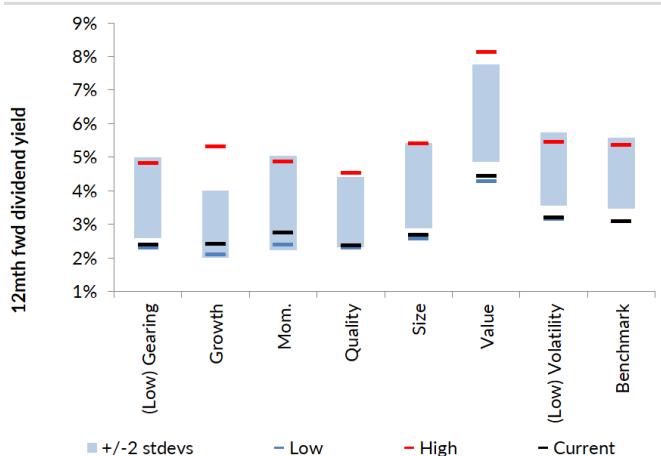
Source: Forsyth Barr analysis, Bloomberg

**Figure 36. 12 month forward PE: Thematic**



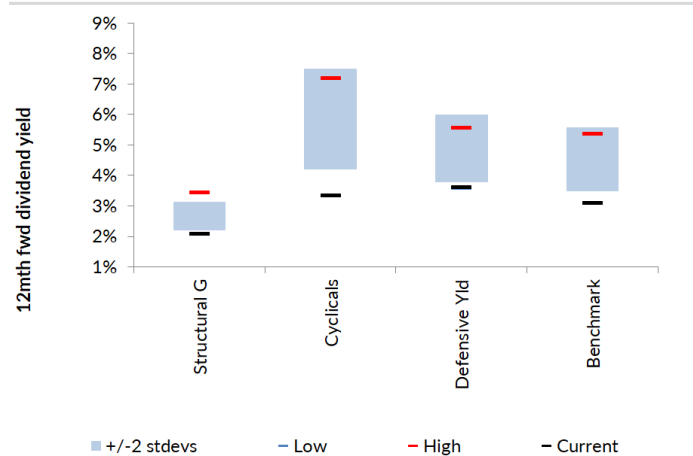
Source: Forsyth Barr analysis, Bloomberg

**Figure 37. 12 month forward net dividend yield: Factor**



Source: Forsyth Barr analysis, Bloomberg

**Figure 38. 12 month forward net dividend yield: Thematic**



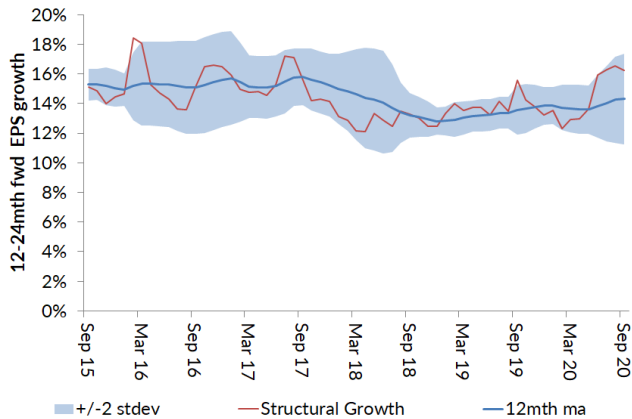
Source: Forsyth Barr analysis, Bloomberg

## Thematic Fundamentals

### Normalised EPS growth

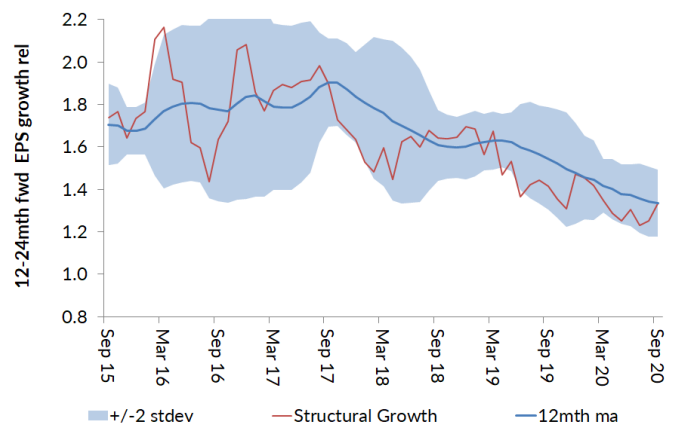
Below we highlight the fundamentals of the S&P/NZX 50, split by thematic (as defined by Forsyth Barr).

**Figure 39. Normalised EPS growth: Structural growth**



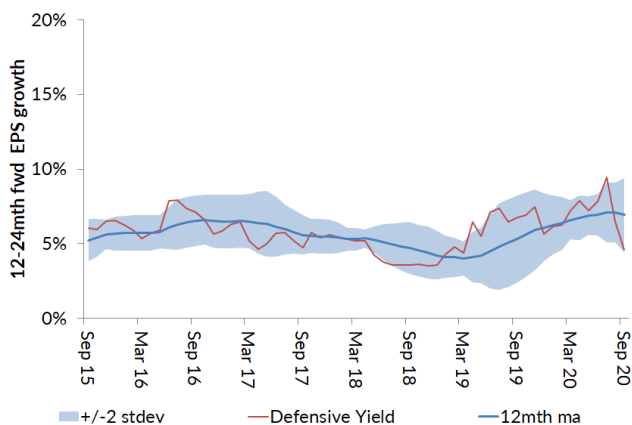
Source: Forsyth Barr analysis, Bloomberg

**Figure 40. Normalised EPS growth relative: Structural growth**



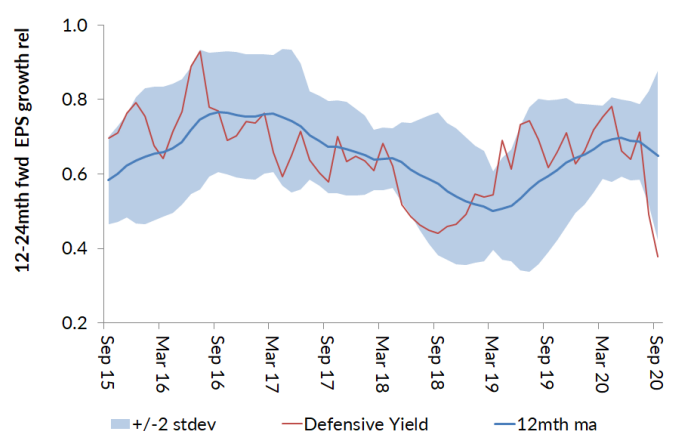
Source: Forsyth Barr analysis, Bloomberg

**Figure 41. Normalised EPS growth: Defensive yield**



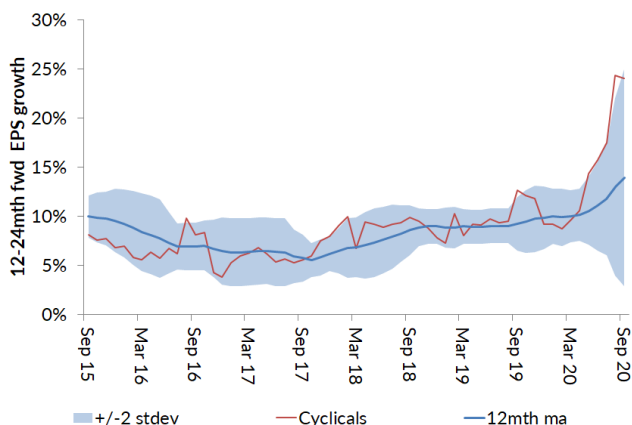
Source: Forsyth Barr analysis, Bloomberg

**Figure 42. Normalised EPS growth relative: Defensive yield**



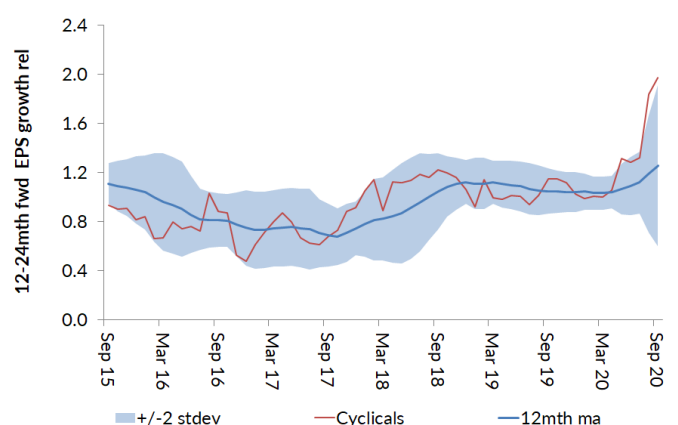
Source: Forsyth Barr analysis, Bloomberg

**Figure 43. Normalised EPS growth: Cyclical**



Source: Forsyth Barr analysis, Bloomberg

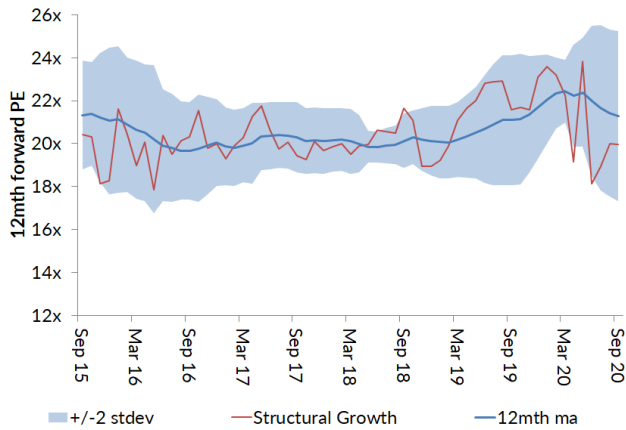
**Figure 44. Normalised EPS growth relative: Cyclical**



Source: Forsyth Barr analysis, Bloomberg

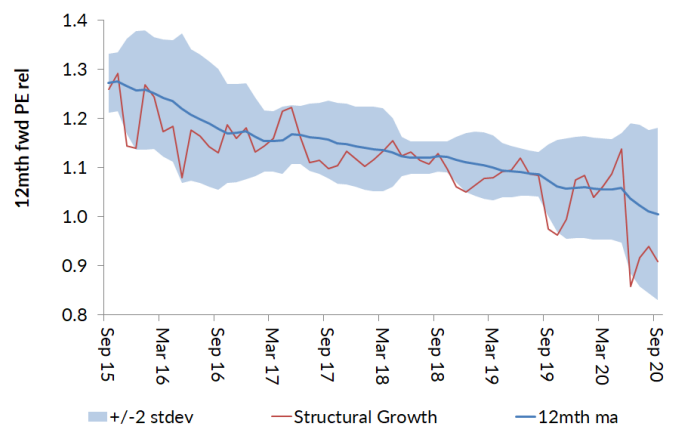
## 12 month forward PE

Figure 45. 12 month forward PE: Structural growth



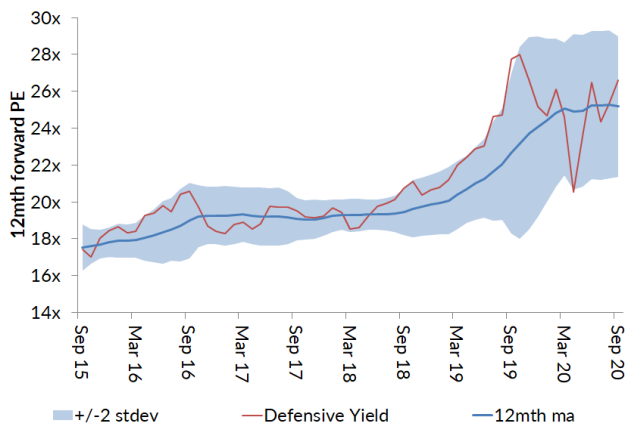
Source: Forsyth Barr analysis, Bloomberg

Figure 46. 12 month forward PE relative: Structural growth



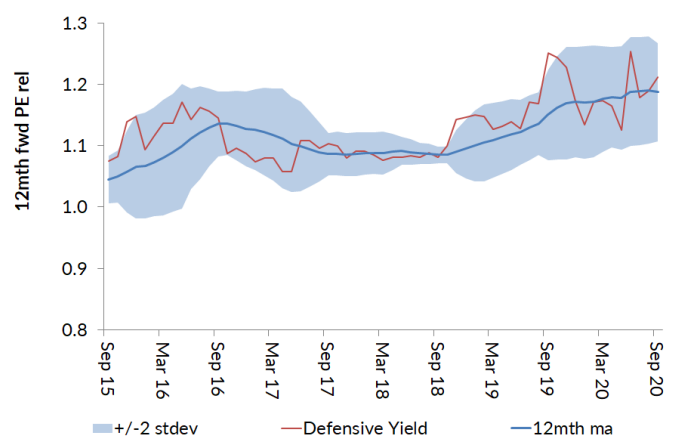
Source: Forsyth Barr analysis, Bloomberg

Figure 47. 12 month forward PE: Defensive yield



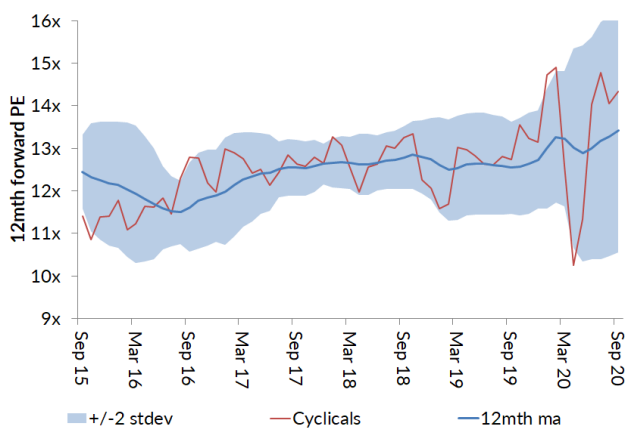
Source: Forsyth Barr analysis, Bloomberg

Figure 48. 12 month forward PE relative: Defensive yield



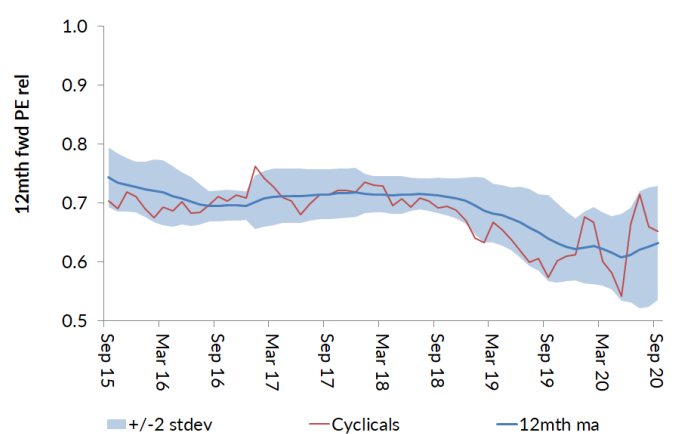
Source: Forsyth Barr analysis, Bloomberg

Figure 49. 12 month forward PE: Cyclical



Source: Forsyth Barr analysis, Bloomberg

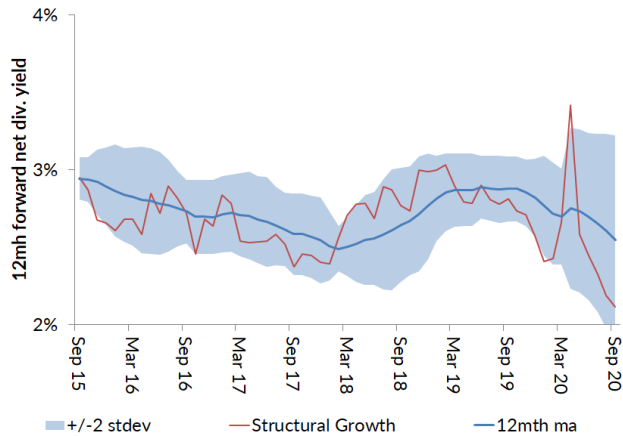
Figure 50. 12 month forward PE relative: Cyclical



Source: Forsyth Barr analysis, Bloomberg

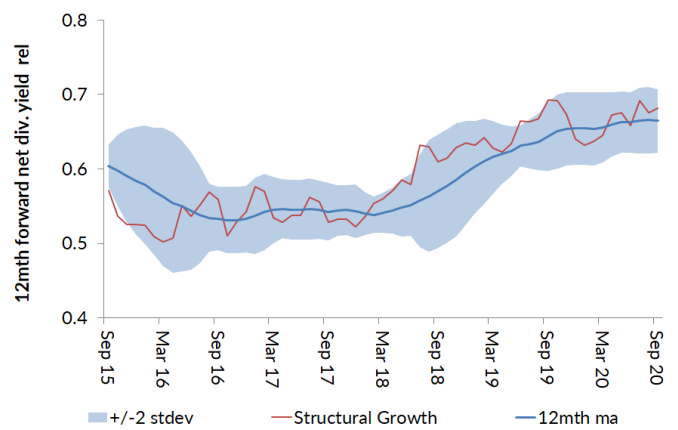
## 12 month forward net dividend yield

Figure 51. 12 month forward net div. yield: Structural growth



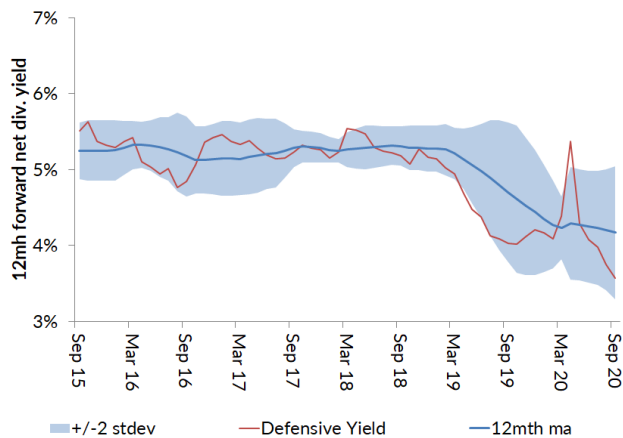
Source: Forsyth Barr analysis, Bloomberg

Figure 52. 12 month forward net div. yield rel: Structural growth



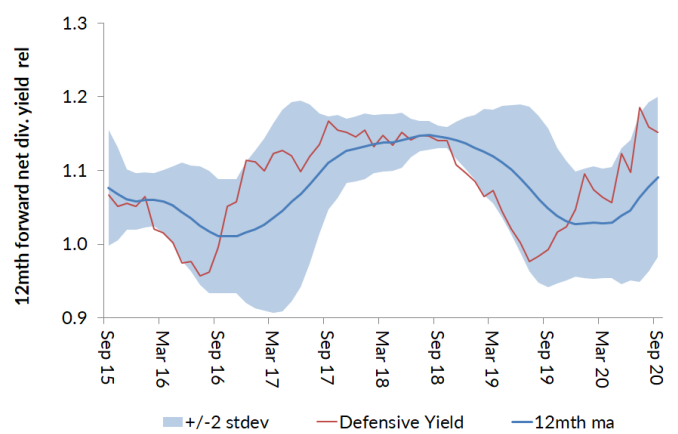
Source: Forsyth Barr analysis, Bloomberg

Figure 53. 12 month forward net div. yield: Defensive yield



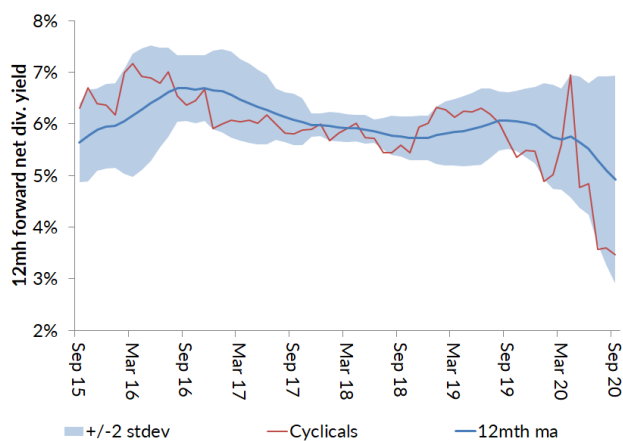
Source: Forsyth Barr analysis, Bloomberg

Figure 54. 12 month forward net div. yield rel: Defensive yield



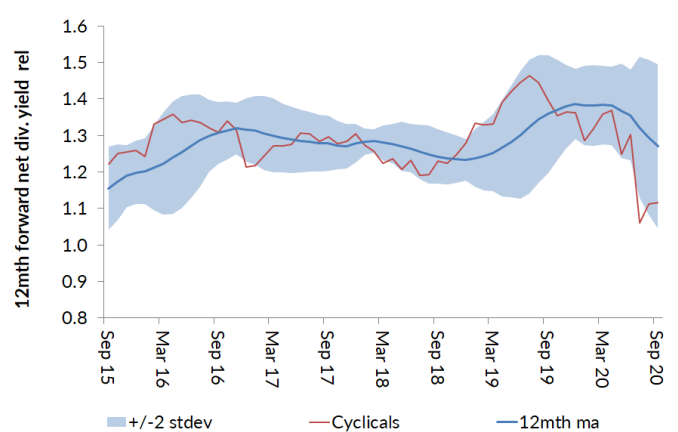
Source: Forsyth Barr analysis, Bloomberg

Figure 55. 12 month forward net div. yield: Cyclical



Source: Forsyth Barr analysis, Bloomberg

Figure 56. 12 month forward net div. yield rel: Cyclical

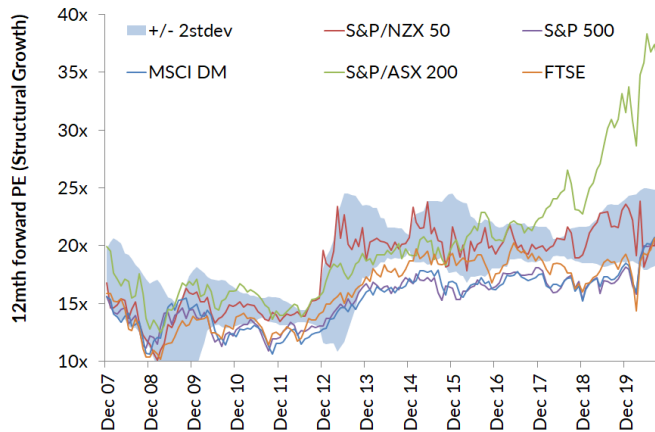


Source: Forsyth Barr analysis, Bloomberg

## Global Comparisons

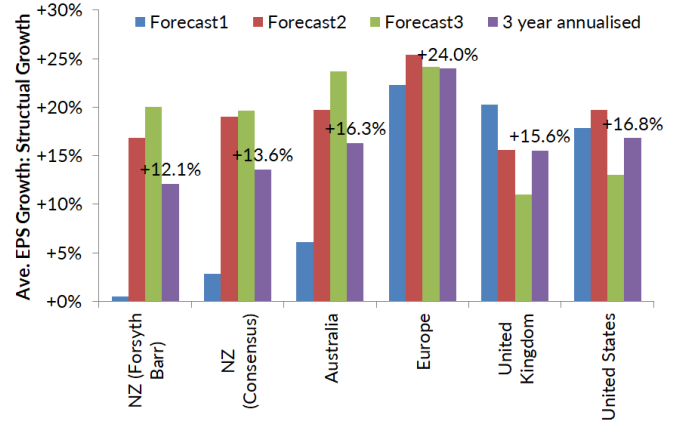
Below we show the comparison of global thematic PE multiples along with the average EPS growth for each global thematic.

**Figure 57. Global 12 month forward PE: Structural growth**



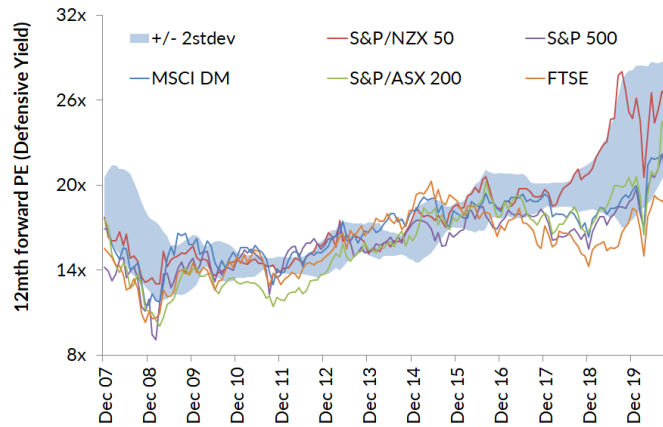
Source: Forsyth Barr analysis, Bloomberg

**Figure 58. Global EPS growth (average): Structural Growth**



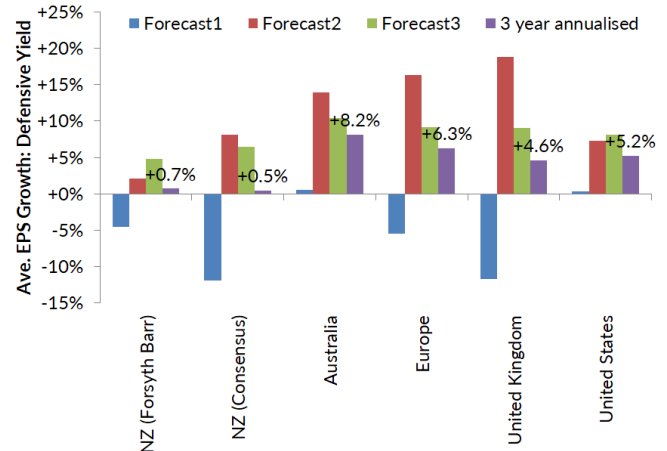
Source: Forsyth Barr analysis, Bloomberg

**Figure 59. Global 12 month forward PE: Defensive yield**



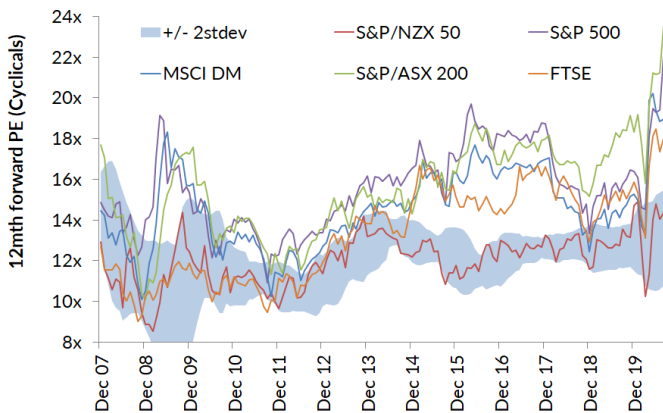
Source: Forsyth Barr analysis, Bloomberg

**Figure 60. Global EPS growth (average): Defensive yield**



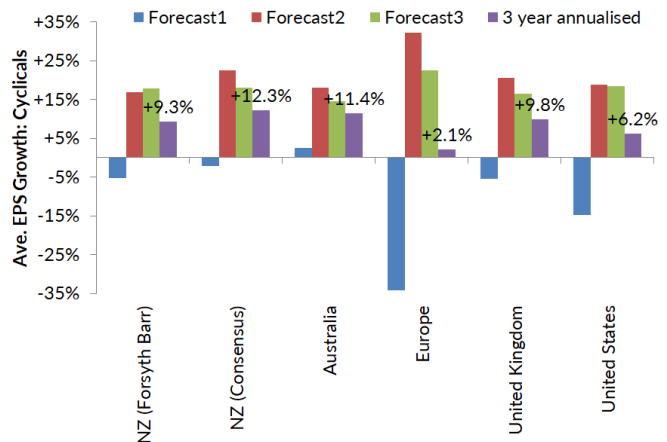
Source: Forsyth Barr analysis, Bloomberg

**Figure 61. Global 12 month forward PE: Cyclical**



Source: Forsyth Barr analysis, Bloomberg

**Figure 62. Global EPS growth (average): Cyclical**

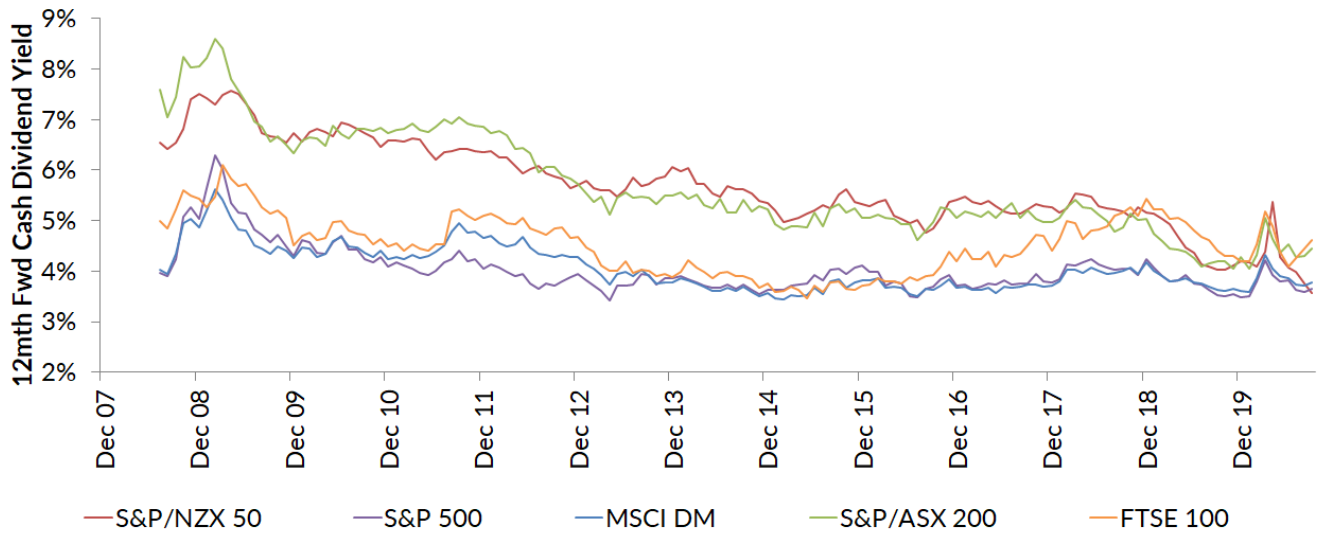


Source: Forsyth Barr analysis, Bloomberg

## Global Comparison

As the hunt for yield continues, we present a comparison of global 12 month forward dividend yields across the Defensive Yield thematic.

Figure 63. Global 12 month forward net dividend yield: Defensive yield thematic



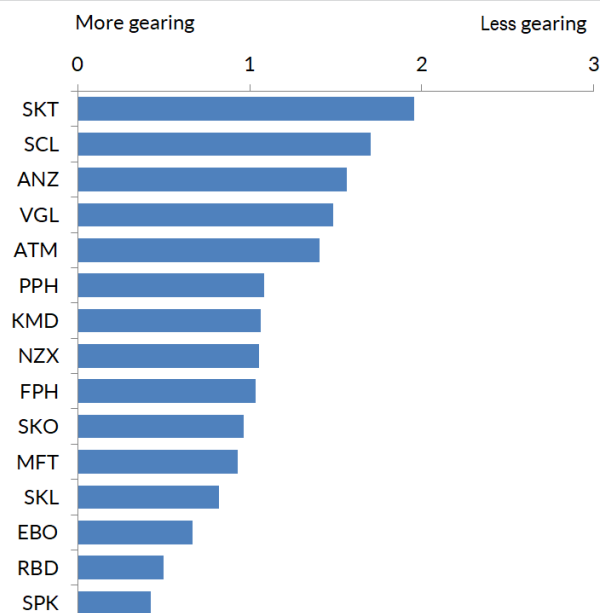
Source: Forsyth Barr analysis, Bloomberg



## What is Screening Well

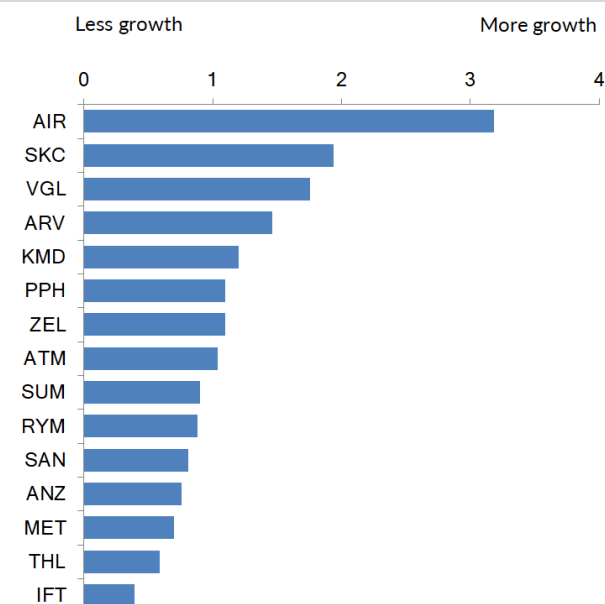
The charts below show the top 15 of each Quant style factor (the long of each factor) as well as each company's relative exposure to that factor.

**Figure 64. (Low) gearing exposure**



Source: Forsyth Barr analysis, Bloomberg

**Figure 66. Growth exposure**



Source: Forsyth Barr analysis, Bloomberg

**Figure 65. (Low) gearing screen fundamentals**

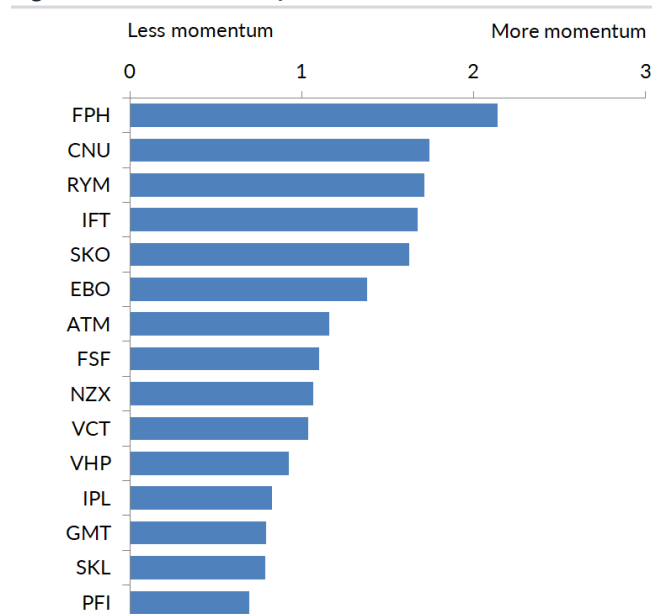
Code	12mth fwd PE	12mth fwd div. yield	EPS growth
SKT	14.3x	+0.7%	0.0%
SCL	20.7x	+4.0%	+9.7%
ANZ	11.2x	+4.8%	+21.7%
VGL	n/a	0.0%	n/a
ATM	26.3x	+0.0%	+19.1%
PPH	n/a	+0.1%	+26.5%
KMD	14.2x	+4.2%	+36.4%
NZX	26.0x	+3.9%	+12.9%
FPH	49.8x	+1.2%	+9.0%
SKO	n/a	n/a	n/a
MFT	25.8x	+1.5%	+14.1%
SKL	18.5x	+4.8%	+5.8%
EBO	21.9x	+3.2%	+7.2%
RBD	26.7x	+0.4%	+2.2%
SPK	20.5x	+5.3%	+7.0%
S&P/NZX 50 mean	23.1x	+3.1%	+11.8%

Source: Forsyth Barr analysis, Bloomberg

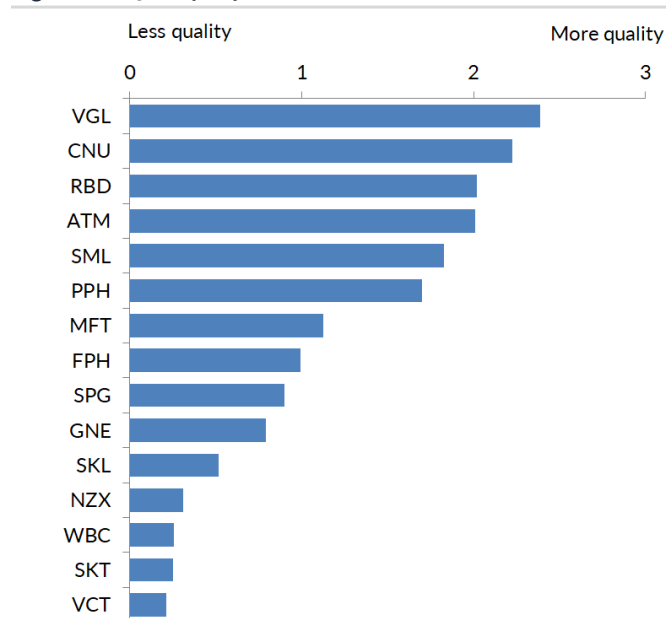
**Figure 67. Growth screen fundamentals**

Code	12mth fwd PE	12mth fwd div. yield	EPS growth
AIR	n/a	+2.2%	n/a
SKC	25.2x	+3.4%	+46.2%
VGL	n/a	0.0%	n/a
ARV	19.2x	+3.1%	+33.3%
KMD	14.2x	+4.2%	+36.4%
PPH	n/a	+0.1%	+26.5%
ZEL	21.5x	+7.3%	n/a
ATM	26.3x	+0.0%	+19.1%
SUM	18.2x	+1.7%	+18.2%
RYM	27.8x	+1.8%	+21.8%
SAN	15.1x	+3.1%	+26.2%
ANZ	11.2x	+4.8%	+21.7%
MET	14.3x	+2.1%	+17.9%
THL	n/a	+0.8%	n/a
IFT	30.5x	+3.5%	+32.3%
S&P/NZX 50 mean	23.1x	+3.1%	+11.8%

Source: Forsyth Barr analysis, Bloomberg

**Figure 68. Momentum exposure**


Source: Forsyth Barr analysis, Bloomberg

**Figure 70. Quality exposure**


Source: Forsyth Barr analysis, Bloomberg

**Figure 69. Momentum screen fundamentals**

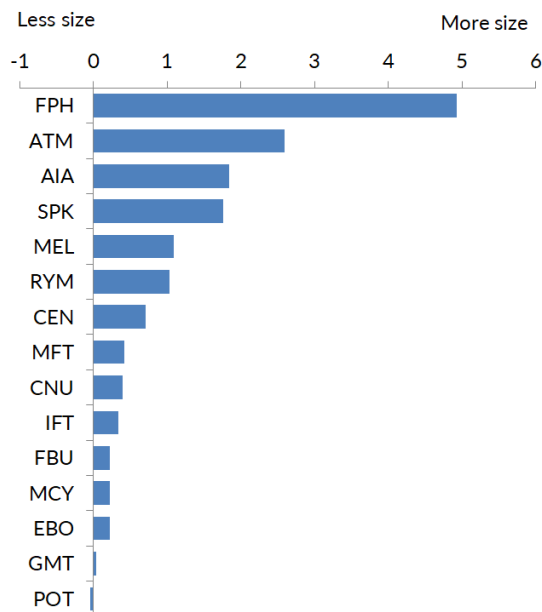
Code	12mth fwd PE	12mth fwd div. yield	EPS growth
FPH	49.8x	+1.2%	+9.0%
CNU	n/a	+3.0%	+6.5%
RYM	27.8x	+1.8%	+21.8%
IFT	30.5x	+3.5%	+32.3%
SKO	n/a	n/a	n/a
EBO	21.9x	+3.2%	+7.2%
ATM	26.3x	+0.0%	+19.1%
FSF	12.8x	+3.8%	+10.3%
NZX	26.0x	+3.9%	+12.9%
VCT	32.2x	+4.0%	+6.0%
VHP	25.7x	+3.1%	+8.6%
IPL	27.2x	+3.5%	+4.9%
GMT	34.4x	+2.3%	+4.3%
SKL	18.5x	+4.8%	+5.8%
PFI	29.9x	+2.9%	+3.3%
S&P/NZX 50 mean	23.1x	+3.1%	+11.8%

Source: Forsyth Barr analysis, Bloomberg

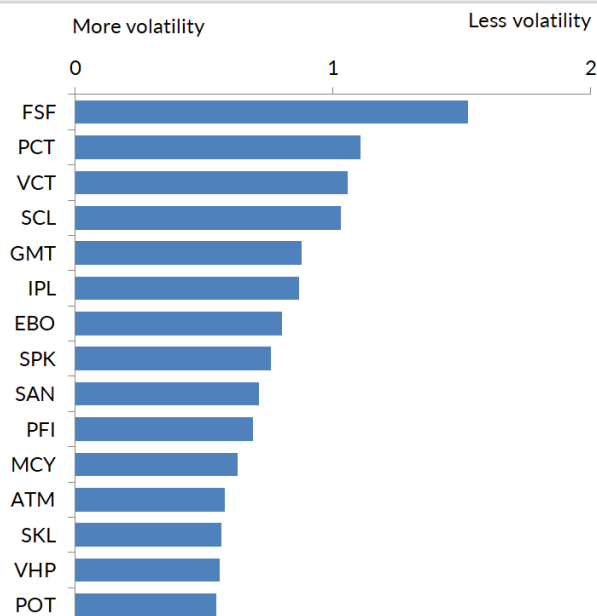
**Figure 71. Quality screen fundamentals**

Code	12mth fwd PE	12mth fwd div. yield	EPS growth
VGL	n/a	0.0%	n/a
CNU	n/a	+3.0%	+6.5%
RBD	26.7x	+0.4%	+2.2%
ATM	26.3x	+0.0%	+19.1%
SML	12.2x	+0.1%	+19.2%
PPH	n/a	+0.1%	+26.5%
MFT	25.8x	+1.5%	+14.1%
FPH	49.8x	+1.2%	+9.0%
SPG	20.1x	+4.7%	+5.7%
GNE	17.4x	+5.6%	+9.1%
SKL	18.5x	+4.8%	+5.8%
NZX	26.0x	+3.9%	+12.9%
WBC	11.3x	+4.8%	+14.6%
SKT	14.3x	+0.7%	0.0%
VCT	32.2x	+4.0%	+6.0%
S&P/NZX 50 mean	23.1x	+3.1%	+11.8%

Source: Forsyth Barr analysis, Bloomberg

**Figure 72. Size exposure**


Source: Forsyth Barr analysis, Bloomberg

**Figure 74. (Low) Volatility exposure**


Source: Forsyth Barr analysis, Bloomberg

**Figure 73. Size screen fundamentals**

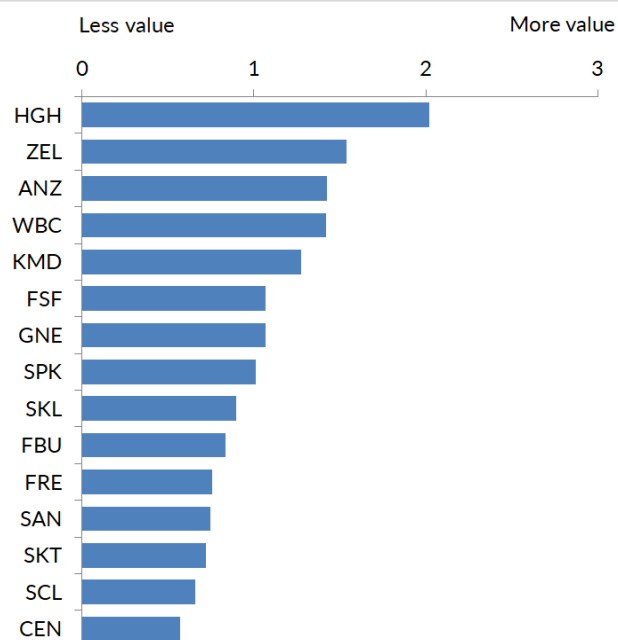
Code	12mth fwd PE	12mth fwd div. yield	EPS growth
FPH	49.8x	+1.2%	+9.0%
ATM	26.3x	+0.0%	+19.1%
AIA	n/a	+0.6%	n/a
SPK	20.5x	+5.3%	+7.0%
MEL	30.8x	+3.4%	-12.5%
RYM	27.8x	+1.8%	+21.8%
CEN	21.1x	+5.0%	-11.8%
MFT	25.8x	+1.5%	+14.1%
CNU	n/a	+3.0%	+6.5%
IFT	30.5x	+3.5%	+32.3%
FBU	18.5x	+3.2%	+18.9%
MCY	42.6x	+3.3%	-9.1%
EBO	21.9x	+3.2%	+7.2%
GMT	34.4x	+2.3%	+4.3%
POT	49.9x	+1.8%	+8.8%
S&P/NZX 50 mean	23.1x	+3.1%	+11.8%

Source: Forsyth Barr analysis, Bloomberg

**Figure 75. (Low) Volatility screen fundamentals**

Code	12mth fwd PE	12mth fwd div. yield	EPS growth
FSF	12.8x	+3.8%	+10.3%
PCT	24.9x	+3.8%	+4.4%
VCT	32.2x	+4.0%	+6.0%
SCL	20.7x	+4.0%	+9.7%
GMT	34.4x	+2.3%	+4.3%
IPL	27.2x	+3.5%	+4.9%
EBO	21.9x	+3.2%	+7.2%
SPK	20.5x	+5.3%	+7.0%
SAN	15.1x	+3.1%	+26.2%
PFI	29.9x	+2.9%	+3.3%
MCY	42.6x	+3.3%	-9.1%
ATM	26.3x	+0.0%	+19.1%
SKL	18.5x	+4.8%	+5.8%
VHP	25.7x	+3.1%	+8.6%
POT	49.9x	+1.8%	+8.8%
S&P/NZX 50 mean	23.1x	+3.1%	+11.8%

Source: Forsyth Barr analysis, Bloomberg

**Figure 76. Value exposure**


Source: Forsyth Barr analysis, Bloomberg

**Figure 77. Value screen fundamentals**

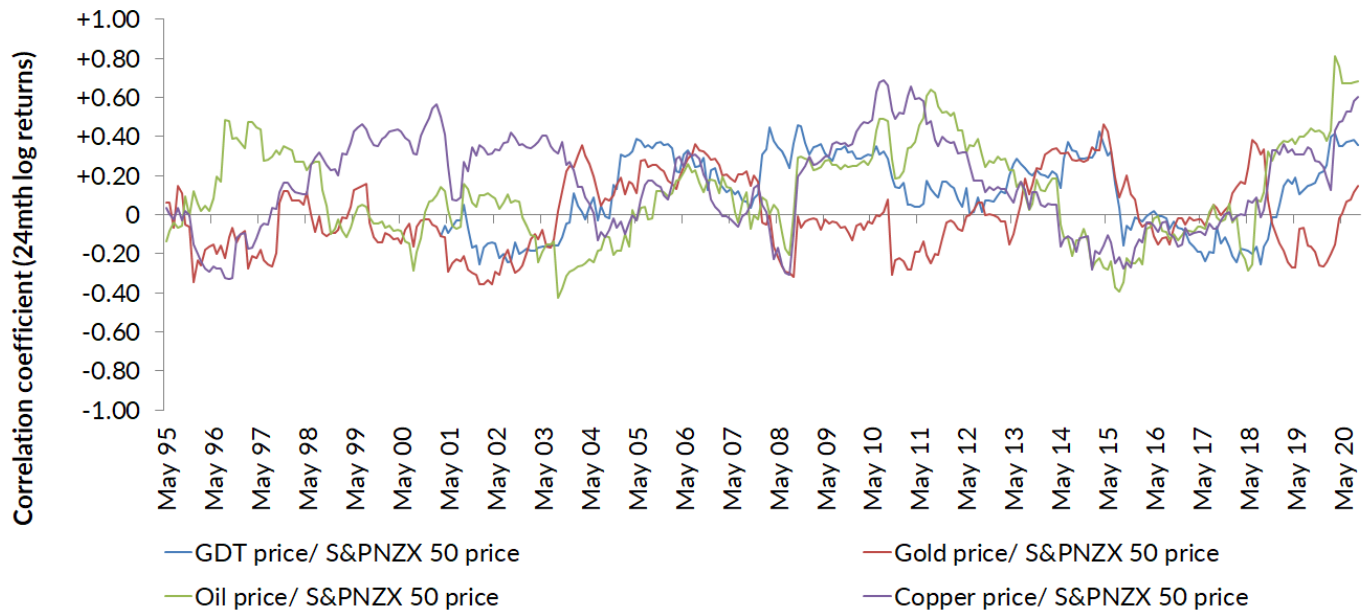
Code	12mth fwd PE	12mth fwd div. yield	EPS growth
HGH	9.3x	+6.1%	+9.4%
ZEL	21.5x	+7.3%	n/a
ANZ	11.2x	+4.8%	+21.7%
WBC	11.3x	+4.8%	+14.6%
KMD	14.2x	+4.2%	+36.4%
FSF	12.8x	+3.8%	+10.3%
GNE	17.4x	+5.6%	+9.1%
SPK	20.5x	+5.3%	+7.0%
SKL	18.5x	+4.8%	+5.8%
FBU	18.5x	+3.2%	+18.9%
FRE	18.9x	+4.0%	+10.0%
SAN	15.1x	+3.1%	+26.2%
SKT	14.3x	+0.7%	0.0%
SCL	20.7x	+4.0%	+9.7%
CEN	21.1x	+5.0%	-11.8%
S&P/NZX 50 mean	23.1x	+3.1%	+11.8%

Source: Forsyth Barr analysis, Bloomberg

## Patterns and Trends

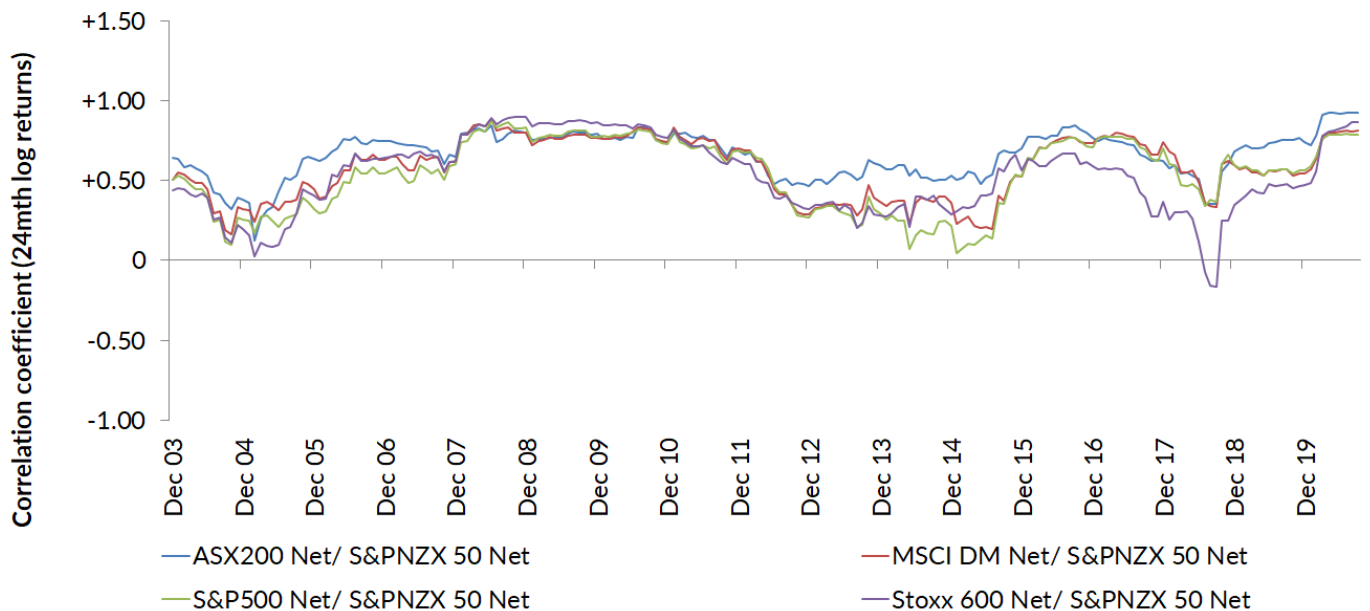
Below we show the correlation of the New Zealand equity market (be it returns or prices) with various commodities, currencies, interest rates and other markets, on a 24 month rolling basis.

**Figure 78. Key commodity price correlations to New Zealand equity market prices**



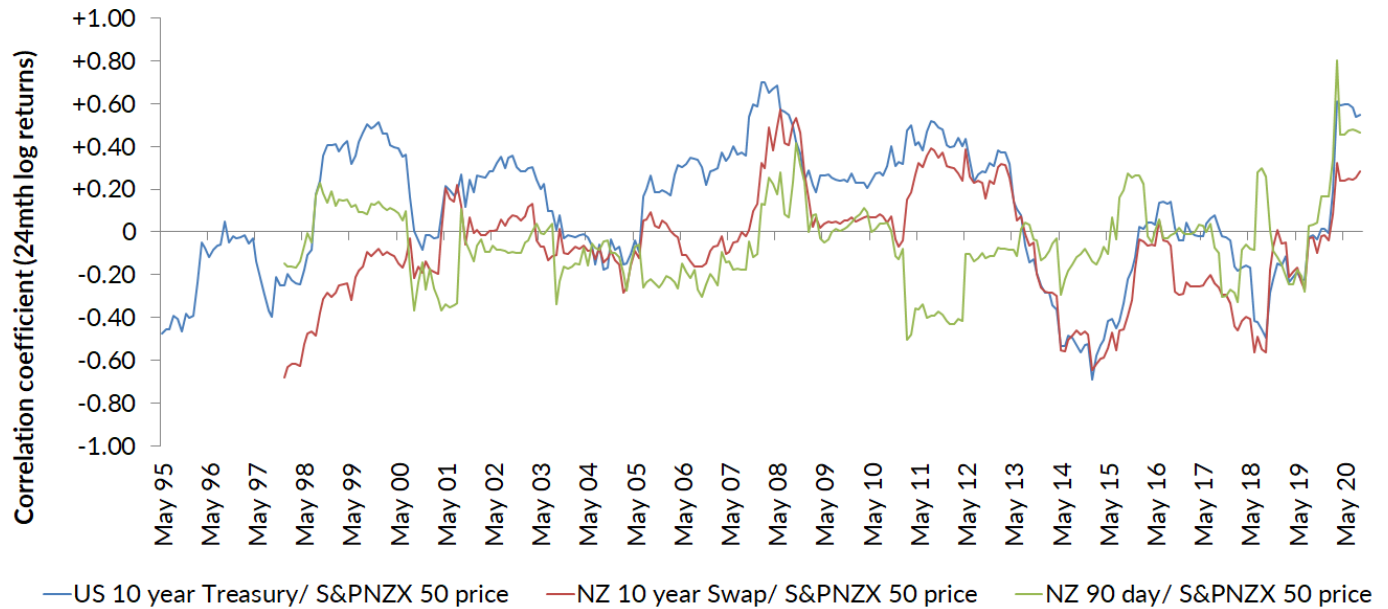
Source: Forsyth Barr analysis, Bloomberg

**Figure 79. Key overseas market correlations to New Zealand equity market returns**



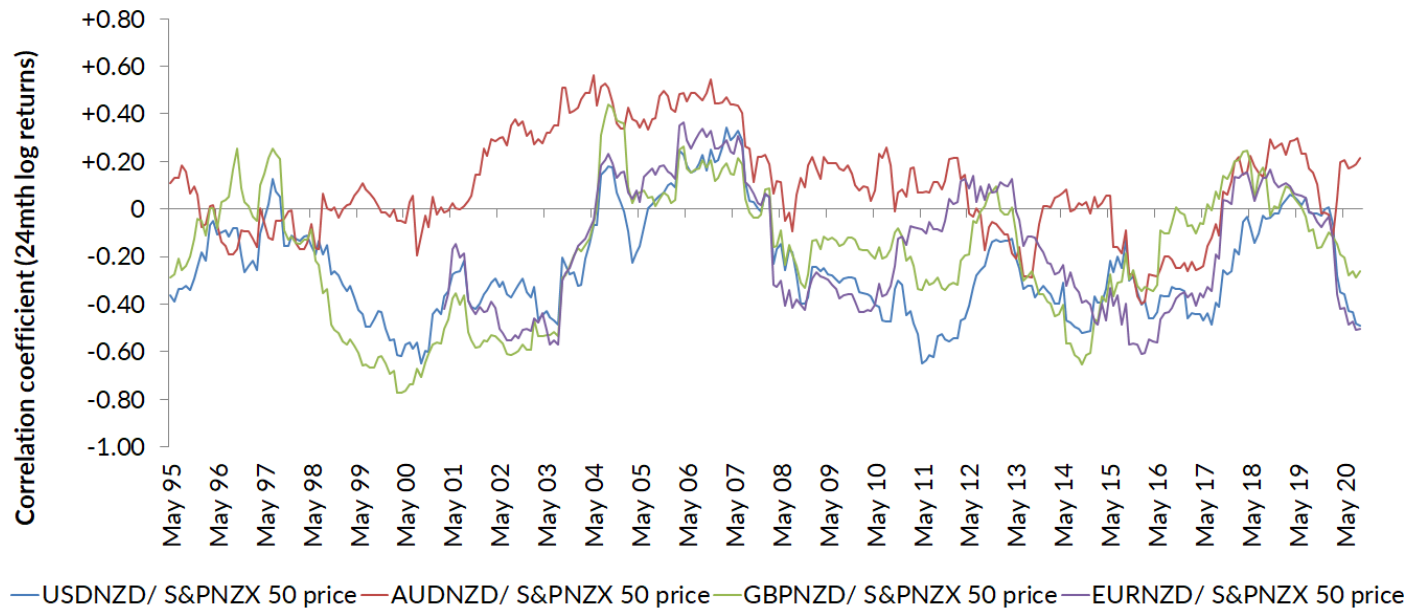
Source: Forsyth Barr analysis, Bloomberg

Figure 80. Key interest rate duration correlations to New Zealand equity market prices



Source: Forsyth Barr analysis, Bloomberg

Figure 81. Key currency correlations to New Zealand equity market prices

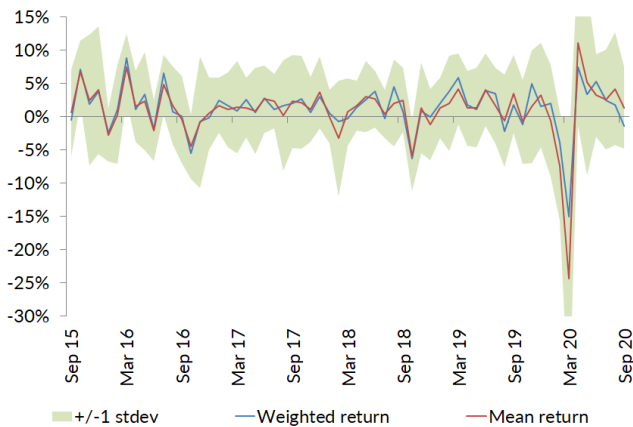


Source: Forsyth Barr analysis, Bloomberg

## Return Dispersion

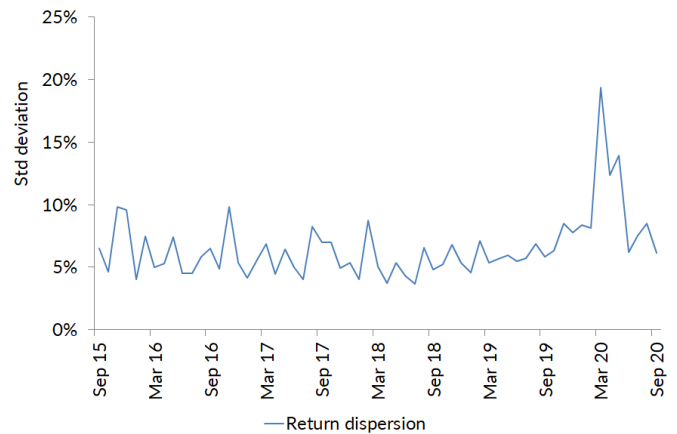
The following charts show the return and contribution dispersion and concentration for the S&P/NZX 50, market leadership, as well as the average pairwise stock-to-stock correlation.

**Figure 82. Return dispersion: Weighted versus average**



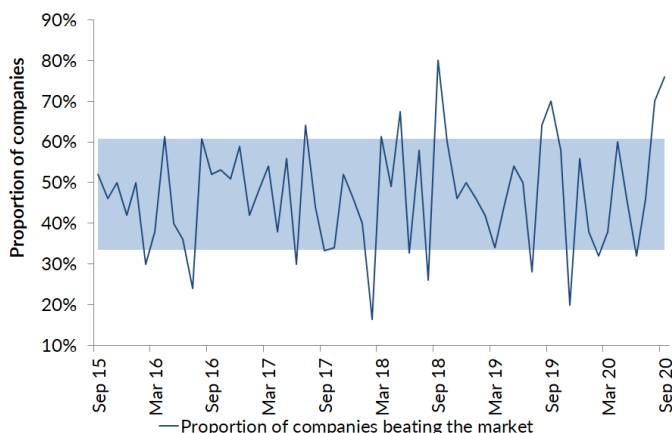
Source: Forsyth Barr analysis, Bloomberg

**Figure 83. Return dispersion**



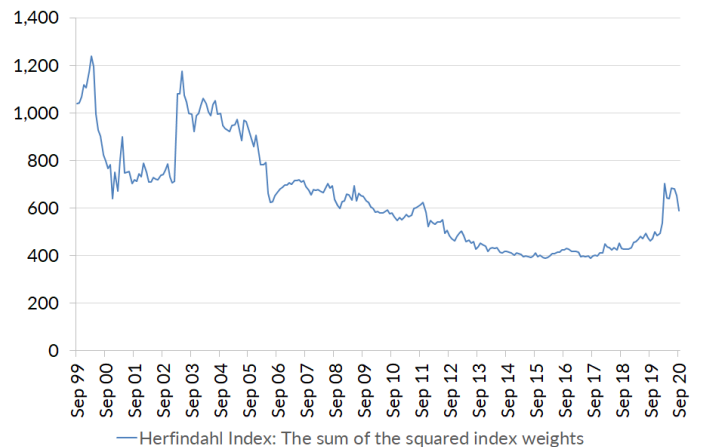
Source: Forsyth Barr analysis, Bloomberg

**Figure 84. Market leadership**



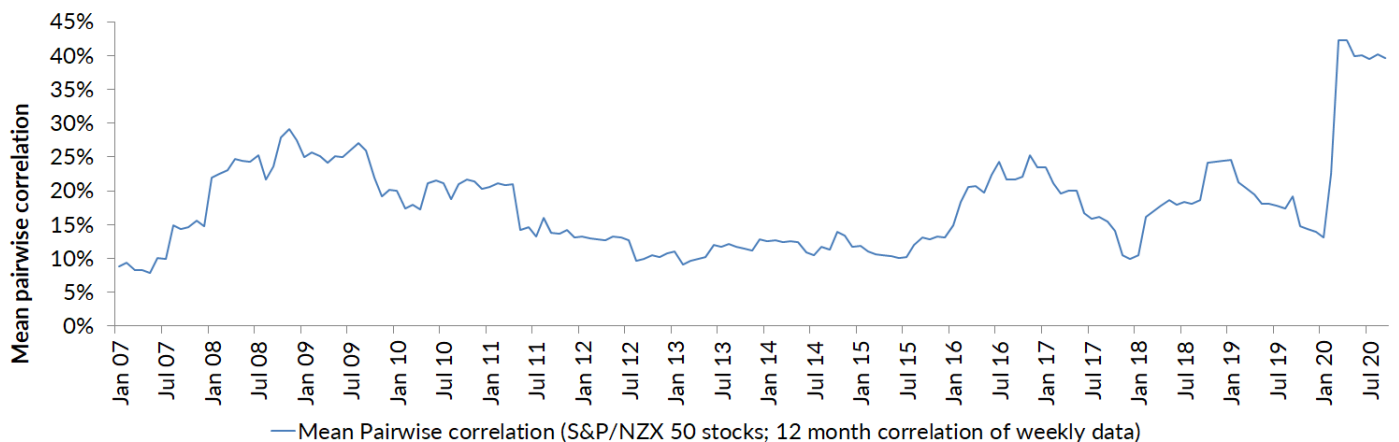
Source: Forsyth Barr analysis, Bloomberg

**Figure 85. Market Concentration**



Source: Forsyth Barr analysis, Bloomberg

**Figure 86. Mean average pairwise stock-to-stock correlation**

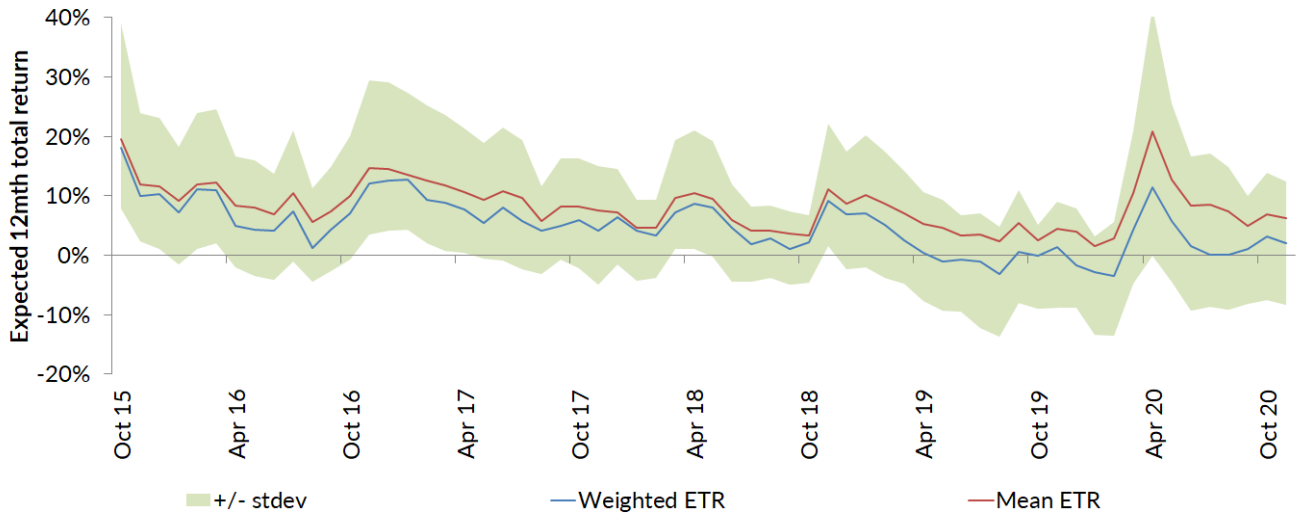


Source: Forsyth Barr analysis, Bloomberg

## Expectations

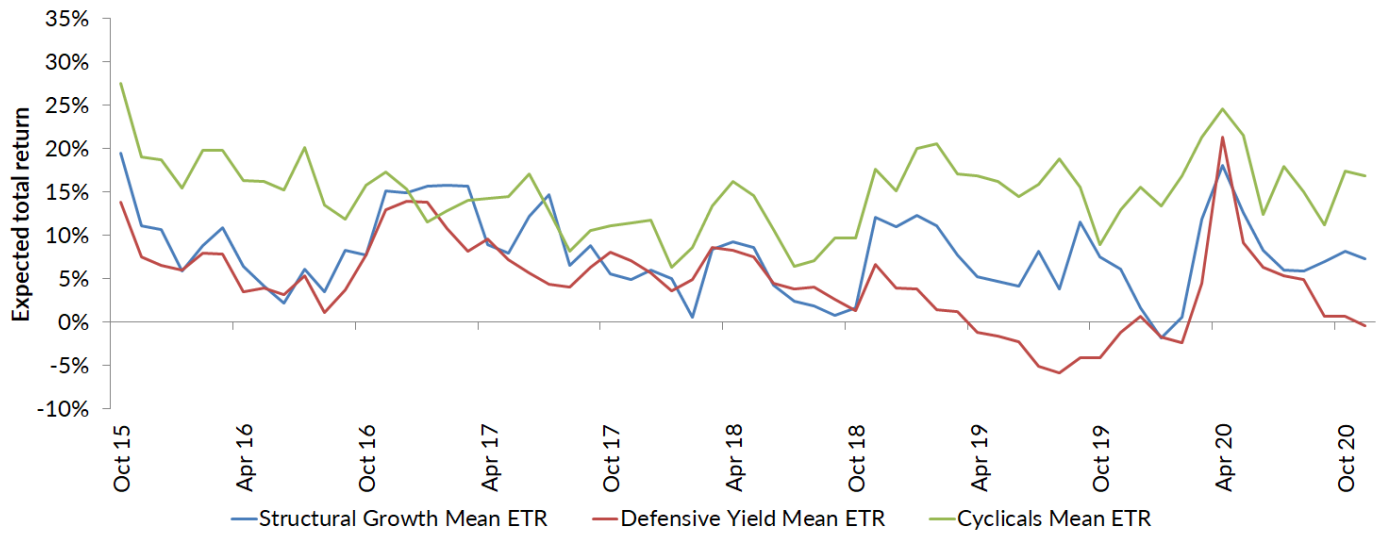
Below we show the mean, range and standard deviation of the Expected Total Return (ETR) for the market and each of the thematic.

Figure 87. S&P/NZX 50 expected total returns



Source: Forsyth Barr analysis, Bloomberg

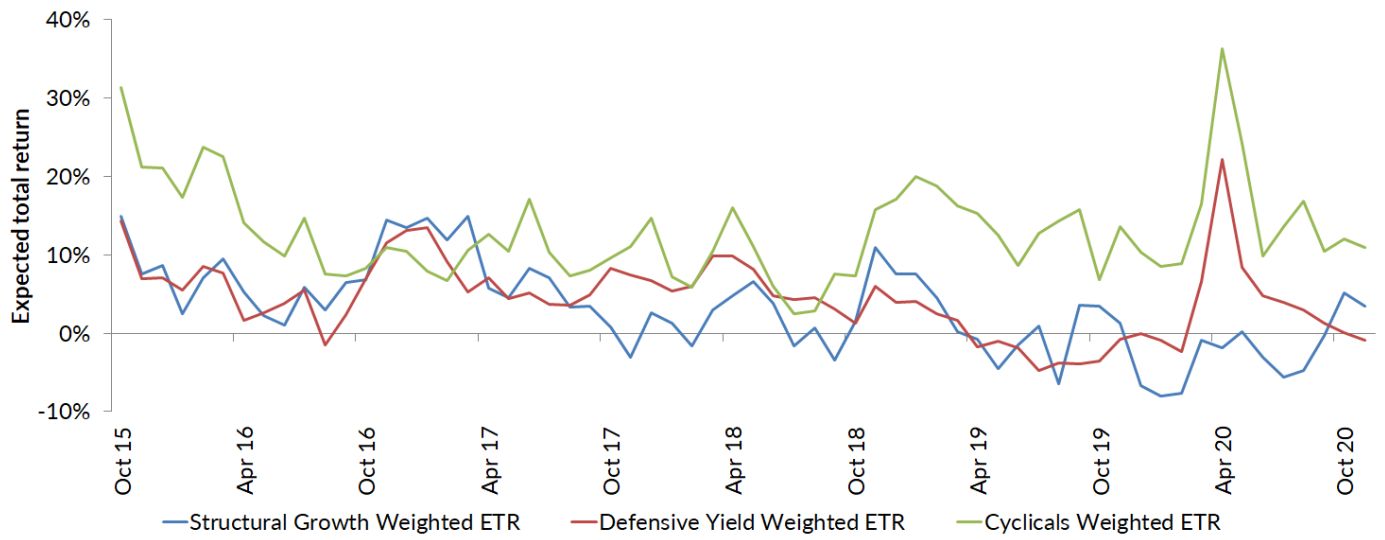
Figure 88. Expected average total returns - By thematic



Source: Forsyth Barr analysis, Bloomberg



Figure 89. Expected weighted average total returns - By thematic

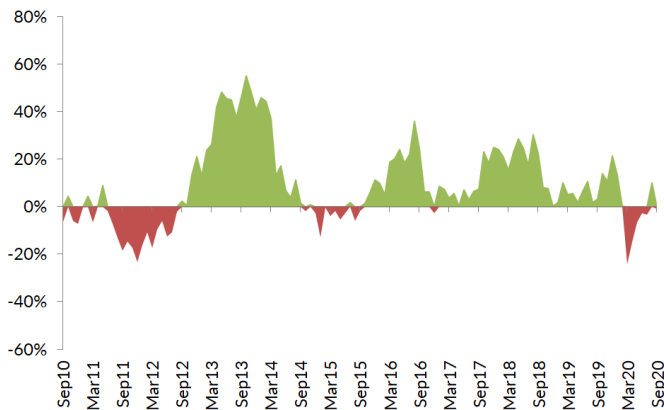


Source: Forsyth Barr analysis, Bloomberg

## ETR versus History

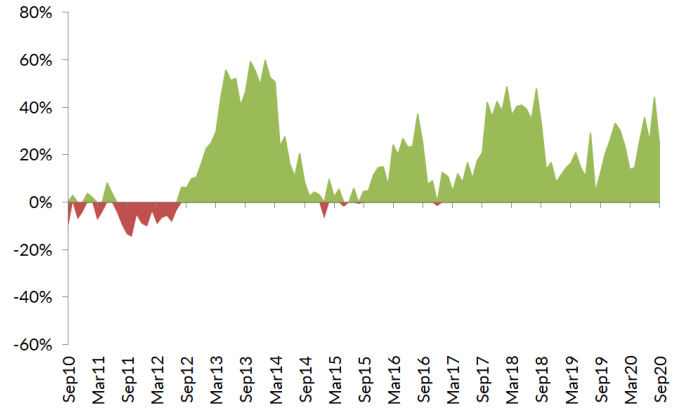
We also present the history of actual 12-month return less the Expected Total Return (ETR), at an average and weighted average level, split by thematic.

**Figure 90. Act 12mth return less ETR: Structural growth (ave)**



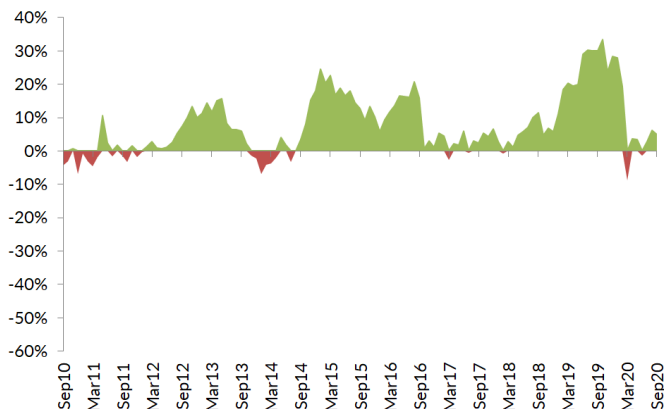
Source: Forsyth Barr analysis, Bloomberg

**Figure 91. Act 12mth return less ETR: Structural G (wgtd ave)**



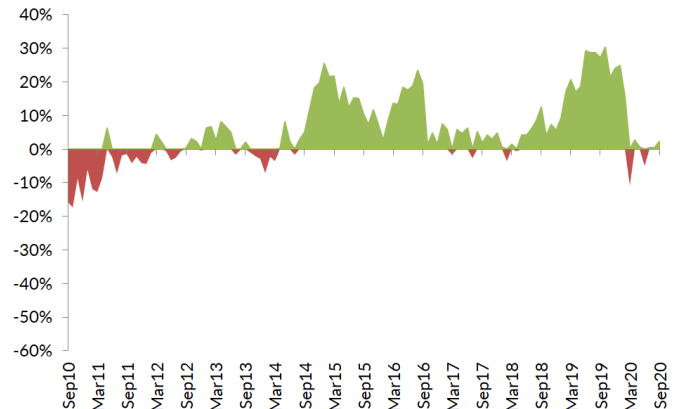
Source: Forsyth Barr analysis, Bloomberg

**Figure 92. Act 12mth return less ETR: Defensive yield (ave)**



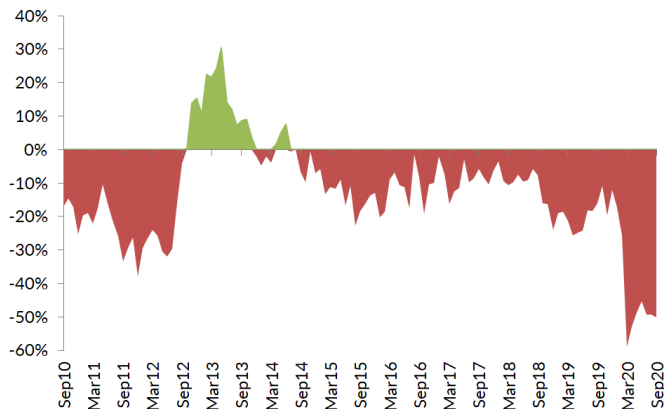
Source: Forsyth Barr analysis, Bloomberg

**Figure 93. Act 12mth return less ETR: Defensive yield (wgtd ave)**



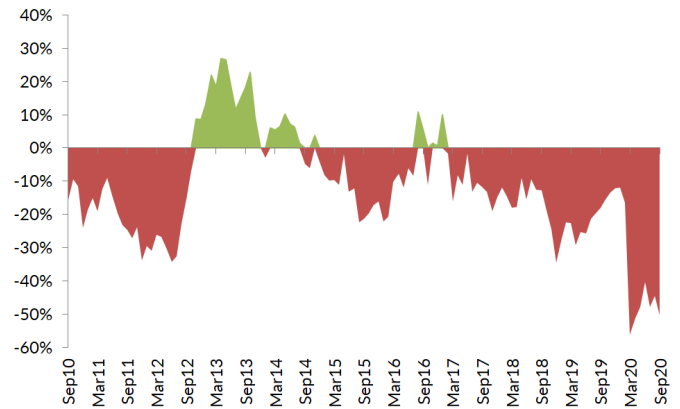
Source: Forsyth Barr analysis, Bloomberg

**Figure 94. Act 12mth return less ETR: Cyclical (ave)**



Source: Forsyth Barr analysis, Bloomberg

**Figure 95. Act 12mth return less ETR: Cyclical (wgtd ave)**



Source: Forsyth Barr analysis, Bloomberg

## Appendix 1: Metric Definition

The figures below provide a brief explanation of what we are looking for in each style factor, the metrics that we use to screen for those characteristics, and finally how the screens are constructed.

All data is sourced from Bloomberg.

**Figure 96. What we are looking for in each Quant style factor**

Style Factor	What are we looking for?
(Low) Gearing	Companies with the lowest balance sheet gearing.
Growth	The companies with the highest forecast earnings growth.
Momentum	The companies with the strongest trend in price and earnings in recent history.
Quality	The companies who analysts have consistently upgraded operating cashflows and dividends over time, along with low payout ratios which indicate they have profitable avenues for investment in their own business.
Size	The largest companies, as measured by free float.
(Low) Volatility	The companies with the least volatile recent trading histories.
Value	The least expensive companies.

Source: Forsyth Barr analysis

**Figure 97. What metrics go in which Quant style factor**

Style Factor	Style metric	Explanation
(Low) Gearing	12mth fwd ND to EBITDA*	Ratio of 12 month forward net debt to EBITDA
(Low) Gearing	12mth fwd ND to EV*	Ratio of 12 month forward net debt to EV.
Growth	12-24 CF growth	24 month forward operating cashflow divided by 12 month forward operating cashflow, less one.
Growth	12-24 EBITDA growth	24 month forward EBITDA divided by 12 month forward EBITDA, less one.
Growth	12-24 EPS growth	24 month forward EPS divided by 12 month forward EPS, less one.
Growth	12-24 Revenue growth	24 month forward Revenue divided by 12 month forward Revenue, less one.
Momentum	Price mom. (3mth)	The t-stat of the estimated slope of the previous 13 weeks of price forecasts.
Momentum	EPS mom. (3mth)	The t-stat of the estimated slope of the previous 13 weeks of 12 month forward EPS forecasts.
Momentum	Price mom. (12mth)	The t-stat of the estimated slope of the previous 52 weeks of price forecasts.
Momentum	EPS mom. (12mth)	The t-stat of the estimated slope of the previous 52 weeks of 12 month forward EPS forecasts.
Quality	Cashflow trend (24mth)	The t-stat of the estimated slope of the previous 104 weeks of 12 month forward operating cashflow forecasts.
Quality	DPS trend (24mth)	The t-stat of the estimated slope of the previous 104 weeks of 12 month forward dividend per share forecasts.
Quality	12mth fwd Payout ratio*	Ratio of 12 month forward dividend per share to 12 month forward operating cashflow per share.
Size	Free float MC	Free float market cap.
(Low) Volatility	Return beta (12mth)*	The covariance of the previous 52 weeks of stock returns and the market, divided by the variance of market returns.
(Low) Volatility	Return Volatility (12mth)*	The standard deviation of the previous 52 weeks of stock returns.
Value	12mth fwd PE*	Ratio of price to 12 month forward earnings.
Value	12mth fwd div. yield	Ratio of 12 month forward dividend per share to price.
Value	12mth fwd EV/EBITDA*	Ratio of EV to 12 month forward EBITDA

Source: Forsyth Barr analysis

**Figure 98. Calculation of Quant style factors**

Style Factor	Calculation
(Low) Gearing	Average relative difference to 12 month forward net-debt-to-EBITDA and 12 month forward net-debt-to-EV.
Growth	Average relative difference to 12to24 month operating cashflow, EBITDA, EPS and Revenue growth.
Momentum	Average relative difference to the t-stat of a univariate regression slope through 13 and 52 weeks of EPS and prices.
Quality	Average relative difference to the t-stat of a univariate regression slope through 104 weeks of 12mth forward DPS and operating cashflow estimates, as well as the z-score of the dividend-to-operating cashflow payout where lower payout is preferred.
Size	Z-score of size.
(Low) Volatility	Average relative difference to the market mean of 12 month observed beta and volatility using weekly returns.
Value	Average relative difference to the market mean of the 12 month forward PE, dividend yield and EV/EBITDA, where lower PE's and EV/EBITDA's are preferred.

Source: Forsyth Barr analysis

The average relative difference refers to the z-score (the difference between the stocks metric and the market mean, divided by the standard deviation of the metric across the market).

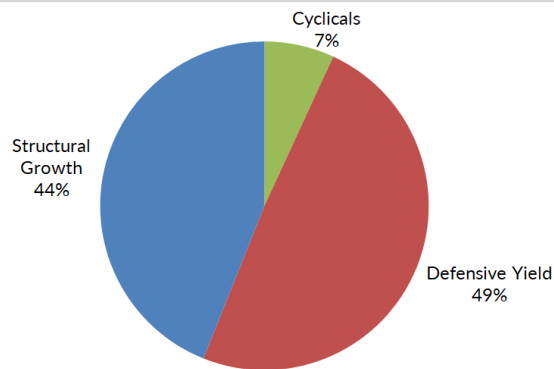
## Appendix 2: Thematic Classifications

**Figure 99. Forsyth Barr GIC Thematic Classification**

Thematic	Global Industry Classification (GIC)
Cyclicals	Consumer Discretionary, Energy, Financials, Industrials, Materials
Defensive Yield	Communication Services, Consumer Staples, Real Estate, Utilities
Structural Growth	Health Care, Information Technology

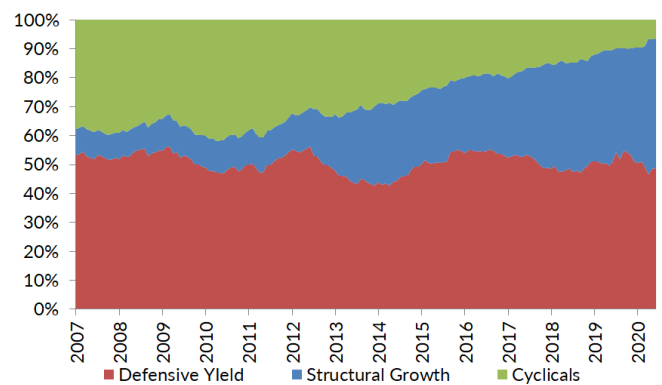
Source: Forsyth Barr analysis

**Figure 100. Spot thematic weights: New Zealand**



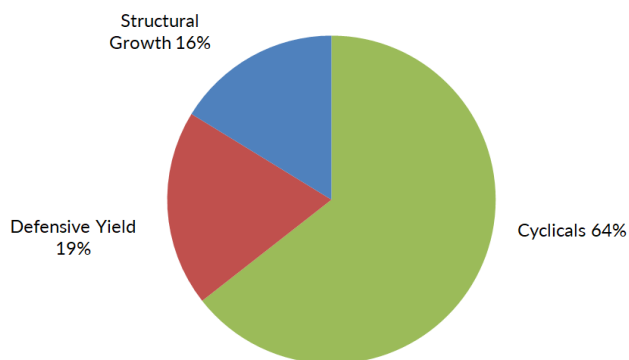
Source: Forsyth Barr analysis, IRESS

**Figure 101. Historic thematic weights: New Zealand**



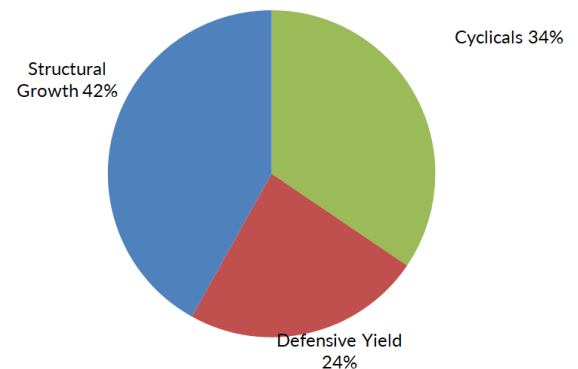
Source: Forsyth Barr analysis, Bloomberg

**Figure 102. Spot thematic weights: Australia**



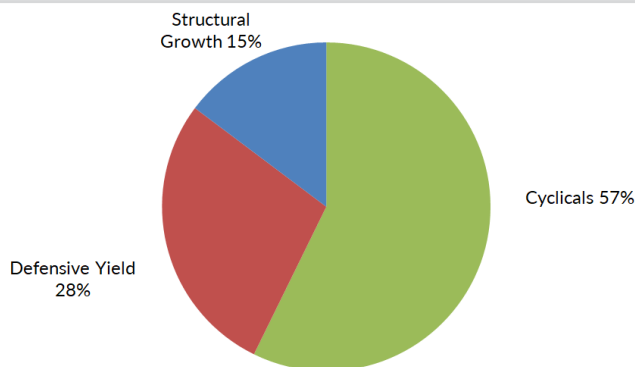
Source: Forsyth Barr analysis, Bloomberg

**Figure 103. Spot thematic weights: United States**



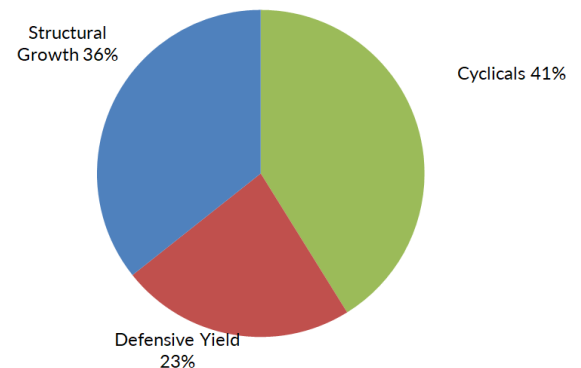
Source: Forsyth Barr analysis, Bloomberg

**Figure 104. Spot thematic weights: United Kingdom**



Source: Forsyth Barr analysis, Bloomberg

**Figure 105. Spot thematic weights: MSCI World**



Source: Forsyth Barr analysis, Bloomberg

**Figure 106. Forsyth Barr Thematic sectors – alphabetical**

Code	FB Thematic
AIA	Defensive Yield
AIR	Cyclicals
ANZ	Cyclicals
ARG	Defensive Yield
ARV	Structural Growth
ATM	Structural Growth
CEN	Defensive Yield
CNU	Defensive Yield
EBO	Structural Growth
FBU	Cyclicals
FPH	Structural Growth
FRE	Structural Growth
FSF	Cyclicals
GMT	Defensive Yield
GNE	Defensive Yield
HGH	Cyclicals
IFT	Defensive Yield
IPL	Defensive Yield
KMD	Cyclicals
KPG	Defensive Yield
MCY	Defensive Yield
MEL	Defensive Yield
MET	Structural Growth
MFT	Structural Growth
NPH	Defensive Yield
NZX	Cyclicals
OCA	Structural Growth
PCT	Defensive Yield
PFI	Defensive Yield
POT	Defensive Yield
PPH	Structural Growth
RBD	Defensive Yield
RYM	Structural Growth
SAN	Cyclicals
SCL	Structural Growth
SKC	Defensive Yield
SKL	Structural Growth
SKO	Structural Growth
SKT	Cyclicals
SML	Structural Growth
SPG	Defensive Yield
SPK	Defensive Yield
SUM	Structural Growth
THL	Cyclicals
TPW	Defensive Yield
VCT	Defensive Yield
VGL	Structural Growth
VHP	Defensive Yield
WBC	Cyclicals
ZEL	Defensive Yield

Source: Forsyth Barr analysis

**Figure 107. Forsyth Barr Thematic sectors – by sector**

Code	FB Thematic
AIR	Cyclicals
ANZ	Cyclicals
FBU	Cyclicals
FSF	Cyclicals
HGH	Cyclicals
KMD	Cyclicals
NZX	Cyclicals
SAN	Cyclicals
SKT	Cyclicals
THL	Cyclicals
WBC	Cyclicals
AIA	Defensive Yield
ARG	Defensive Yield
CEN	Defensive Yield
CNU	Defensive Yield
GMT	Defensive Yield
GNE	Defensive Yield
IFT	Defensive Yield
IPL	Defensive Yield
KPG	Defensive Yield
MCY	Defensive Yield
MEL	Defensive Yield
NPH	Defensive Yield
PCT	Defensive Yield
PFI	Defensive Yield
POT	Defensive Yield
RBD	Defensive Yield
SKC	Defensive Yield
SPG	Defensive Yield
SPK	Defensive Yield
TPW	Defensive Yield
VCT	Defensive Yield
VHP	Defensive Yield
ZEL	Defensive Yield
ARV	Structural Growth
ATM	Structural Growth
EBO	Structural Growth
FPH	Structural Growth
FRE	Structural Growth
MET	Structural Growth
MFT	Structural Growth
OCA	Structural Growth
PPH	Structural Growth
RYM	Structural Growth
SCL	Structural Growth
SKL	Structural Growth
SKO	Structural Growth
SML	Structural Growth
SUM	Structural Growth
VGL	Structural Growth

Source: Forsyth Barr analysis

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